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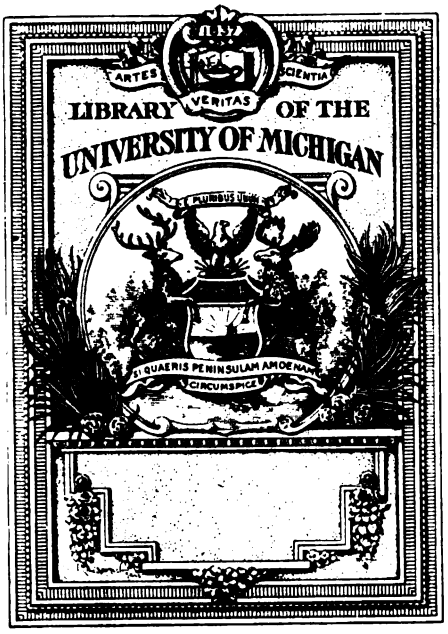

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DEPARTMENT OF COMMERCE AND LABOR
BUREAU OF MANUFACTURES

MONTHLY CONSULAR AND TRADE REPORTS

MAY, 1910

No. 356

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MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C. MAY, 1910 No. 356

TRADE EXTENSION.

MARKET OPENINGS.

CHINA.

RAILWAY, COMMERCIAL, INDUSTRIAL, AND EDUCATIONAL CENTER.

In the following report Vice-Consul-General Hubert G. Baugh desires to invite the attention of American traders and capitalists to Hankow as a center from which to exploit all China:

Hankow is situated on the Yangtze River, at the junction with the Han River, a little over 600 miles from the sea, and at approximately equal distances from Peking in North China and Canton in South China. Directly across the Han River is the city of Hanyang, while facing both these cities on the south bank of the Yangtze lies the city of Wuchang, the capital of Hupeh Province. The Yangtze is nearly a mile wide opposite Hankow, but the three cities of Hankow, Hanyang, and Wuchang may be and often are considered as one, with a population estimated variously from 1,000,000 for the three to the same figure for Hankow alone, and 2,000,000 for the three. The former figures for the three will be a moderate estimate. The latitude, 30° 34′, brings the city on a line with New Orleans, but temperature here varies from 105° to 13° F., while the extreme dampness makes both the heat and cold very severe.

PROVINCES TRIBUTARY TO HANKOW.

For hundreds of years Hankow has been noted among the Chinese as the greatest of the four great market towns of the Empire, and its situation easily reveals the cause of this opinion. The Han River, which gives the city its name (Han K'ou, or mouth of the Han), flows down from the northwest and brings the products of Kansu, Shensi, southern Honan, and the northern portion of this Province of Hupeh. About 100 miles up the Yangtze is the outlet of the Tungting Lake, the largest in China, into which drain the navigable rivers of the Province of Hunan, one of the wealthiest and most prosperous provinces of the Empire, while produce from the Province of Kueichow finds its way to Hankow by this route. The Yangtze River itself traverses the Province of Szechuan, the largest, both in area and population, in China, before entering Hupeh, so that the trade of practically seven provinces centers at Hankow. Foreign merchants have not been slow to recognize these wonderful advantages of the city, and the number of foreign merchants and the volume of international trade are increasing as perhaps nowhere else in China, with

every prospect of a continued increase for years to come, as China becomes more open to the use of foreign capital and skill. While most of the ports on the lower Yangtze reported a loss in the customs receipts for 1908, and Shanghai suffered the loss of about $900,000, and had the smallest revenue of that city, with one exception, for seven years, Hankow was able to report an increase of about $150,000, and the greatest total revenue in its history.

THE RIVER SERVICE.

The Yangtze River is deep enough for the larger part of the year for ocean steamers to come up to Hankow, thus giving the city direct communication with foreign countries, although the larger part of Hankow's foreign trade, especially the import trade, is carried on through Shanghai. The river service is amply provided for by over 20 river steamers, averaging about 2,000 tons each, belonging to British, German, French, Japanese, and Chinese firms. Nearly a dozen smaller river steamers ply between Hankow and the up-river ports, 370 miles up the Yangtze to Ichang, 250 miles to Changsha, south of the Tungting Lake, and 25 miles farther to Siangtan. Thousands of native junks and other craft bring cargo down the Upper Yangtze, through wonderful gorges and rapids, to Ichang, down the Han River to Hankow, or from the more distant parts of Honan and Kueichow to Changsha, Siangtan, and Yochow, the ports of Honan province.

Two unsuccessful attempts have been made to run a small steamer up the rapids of the Upper Yangtze, and a third attempt is even now in progress. A steamer, specially designed for the trip, was built in England, put together in Shanghai, has made the difficult ascent in safety under its own steam. Delays have been occasioned by the Chinese officials, but if matters can be arranged to their satisfaction it is proposed to make regular trips between Ichang and Chungking, above the rapids, a distance of about 1,500 miles from the coast.

RAILWAY LINES AND TRAFFIC.

A little over five years ago the Peking-Hankow Railway was opened for traffic. At the beginning of the current year entire control of this line was taken over by the Chinese Government. One branch of this line is already in operation, from Kaifengfu, the capital of the Province of Honan, to Honanfu on the other side of the province. Other branches are proposed and it is now reported that lines are to be constructed from Hankow to Siangyang, and from Kwangshui to Siangyang, both in this province, the consent of the Imperial Government having been obtained already. The Kaifengfu-Honanfu line brings an important district into connection with Hankow, and an immense amount of native produce is brought to this city yearly, to be prepared for shipment abroad or to other parts of China. This trunk line to Peking has paid large profits, even with little effort to expand its business. The financial success of this and other lines now in existence and the great advantages they offer to travelers as well as to merchants have produced a great desire on the part of the people to have other lines running to all parts of the interior and construction of new lines is bound to come.

Another great trunk line has been planned to connect Hankow with Canton. Originally to be constructed with American capital and by American engineers, the line later was recovered by the Chinese Government, and only the smallest progress is being made with it. At the Canton end work has been under way for some time, and fifty-odd miles are in operation, but in the two Provinces of Hunan and Hupeh no work has been attempted, further than preliminary surveys, which will in all probability have to be remade before actual construction work begins. When the proposed foreign loan, to cover this line and that running from Hankow to Szechuan, has been negotiated the beginning of actual construction work may be looked for, and the share of the United States in the loan will insure the employment of American engineers. The Hankow-Szechuan line will tap the large and rich Province of Szechuan and will complete the close connection of Hankow in the center of China with the north, west, and south by rail and with the coast in the east by steamer.

ESTABLISHMENT OF INDUSTRIES.

Some mention of the industries and other activities now being carried on in this center will help to show to what extent these natural advantages of the city have been recognized and taken advantage of by Chinese as well as foreign merchants. The largest single concern is the Hanyang Iron and Steel Works, reorganized about a year ago to include the iron and coal mines from which the raw materials were obtained. The company has been capitalized at $20,000,000 Mexican, and now has a force of about 20,000 men in its employ, with over 4,000 employed in the iron and steel works in Hanyang. It was a question at first whether to construct the plant near the raw materials or near a large market and distributing center, and the decision in favor of the latter course has never been regretted. The works supply the larger part of the rails used on all the railways in the country, and gives promise of occupying a prominent place in the industrial world of China and the Far East. Connected with this plant through its directors is the Yangtse Engineering Works, a Chinese company, which is engaged in steel construction work and which plans eventually to be able to build gunboats and steamers. This firm employs over 1,000 men, and is entirely under Chinese control. The only foreigner in the company is a British bridge designer. Other Chinese concerns include the Provincial Mint at Wuchang, the cotton mill and tannery also in Wuchang, the arsenal and a wire and needle factory in Hanyang. Hankow native city possesses a modern electric lighting plant and an up-to-date waterworks.

In the foreign concessions perhaps the largest industrial plants are the tea factories, of which there are four. Seven foreign banks, including a branch of the International Banking Corporation, of New York, give Hankow excellent banking facilities. The Standard Oil Company has large oil-tank installations just below the concessions. A foreign cigarette company employs about 600 men and women in its large factory, while a British export company employs several hundred persons in its big cold-storage plant, where poultry and game are stored preparatory to shipment to England. In addition to these there are several albumen factories, a large match fac-

tory, several hydraulic presses for cotton and hides, and two electric-light plants to supply the concessions.

EDUCATIONAL INTERESTS.

Extensive foreign educational work centers in Hankow. At present four missionary societies carry on work in this center, not including the Roman Catholic Mission, which is represented by French, Spanish, and Italian institutions. Some of the mission schools are large and growing rapidly, but the feature which calls for most attention is that the committee representing the two great English universities of Oxford and Cambridge has fixed upon this center as a seat for the university to be built up for the Chinese. The final plans for this movement have not been made yet, nor has the exact situation for the university been selected, but it is to be either in Hankow or Wuchang, and the completion of the plans is only a matter of time. At least one American university has been invited to join this movement, and there is reason to believe that a medical school, backed by Yale or Harvard, may form a part of the general scheme. With the missions centering their educational work at this center, and with a comprehension of the wonderful advantages offered by the situation, it does not take one long to come to the conclusion already reached by many, that Hankow is destined to become one of the most important places in China, and such being the case the attention of American business men may well be turned in this direction, with the surety that efforts directed at the extension of their trade with China through this center will not be misplaced. [A map showing the railways opened and in progress in China, transmitted by the vice-consul-general, is on file in the Bureau of Manufactures.]

TRADE IN MANCHURIA.

OPPORTUNITIES FOR EXTENDING AMERICAN COMMERCE.

Following a forceful description of the commercial activities now in progress in Manchuria, Frank G. Carpenter, in a recently published letter from that country, advises American manufacturers and merchants as to opportunities offered for extension of their trade. Mr. Carpenter writes:

The time has come when the United States should push its trade in Manchuria. The people are just beginning to know foreign goods and buy them, and from now on there will be a great increase in the native consumption. All sorts of farming implements will be needed for the development of this great agricultural empire, and our plows should be in great demand. The Germans are already selling cheap imitations of American tools around Harbin. They get $25 for a plow which could be easily landed on the ground and sold at a profit at $10 or $12.

As the wheat lands are developed reapers will be needed, and for the large government farms thrashers and steam engines. A British firm recently sold four large Howard steam plows, shipping them north from Newchwang; the board of agriculture at Mukden has on its experimental farm American reapers, harrows, harvesters, and plows.

A large part of the flour milling machinery already in use is of American make, and the rolling stock of most of the railways is American. When the South Manchurian railroad was reconstructed the Japanese gave us one order which amounted to about 60,000 tons. It was for steel rails and bridging material. At the same time over 2,000 of our freight cars, 200 locomotives, and something like 200 other cars were imported.

The new Pullmans, which are being used on the southern end of the Trans-Siberian Railroad are by far the finest sleeping cars of all Asia, and there will

be a demand for similar material on the new roads which will soon be constructed. One of these will be the line to Kirin, and another, the rebuilding of the military road which now goes from Mukden to the Yalu River and connects with the Korean system at Antung.

To-day our chief exports to Manchuria, outside of railway materials, are cotton, kerosene, and tobacco. The Manchurians use about $6,000,000 worth of cotton sheetings every year.

STRAITS SETTLEMENTS.

SINGAPORE AS A TRADE CENTER—PRODUCTION OF RUBBER AND PEPPER.

The importance of Singapore, the principal commercial point of Malaysia, as the center of a large, valuable, and constantly growing trade, and the opportunities offered for the sale of American products in that section of the world is forcibly stated by Mr. Frank G. Carpenter, the well-known writer and traveler, in a recently published letter. Mr. Carpenter writes:

Singapore is one of the most important of the commercial ports of the Far East. It is the ganglionic nerve center, or rather shipping center, for the archipelago of the Dutch East Indies, for Siam, and, as far as the eastern trade is concerned, for Asia and Europe. It is one of the best places for the pushing of American trade, and we are fortunate in having an experienced and up to date consul-general, Mr. James T. Du Bois, who believes that our trade in this part of the world can be largely increased. He suggests that if an American bazaar were established at Singapore by some big exporting houses, with branches scattered throughout the peninsula, it would be of great value.

POINT FOR DISTRIBUTION.

The balance of trade is now much against us. We buy about $20,000,000 worth of tin, hides, gambier, and other things of the Straits Settlements, and sell something like $2,000,000 worth of flour, oils, machinery, drugs, and tobacco in return. This region is steadily growing in trade and importance, and the English and Germans are nursing their commerce and pushing their goods in all possible ways. There is no doubt but that we should use Singapore as a center from which to work not only the surrounding islands and the mainland, but India and the Far East as well. This is especially so since Singapore lies right on the main road to the Philippines and vessels from the eastern United States could call here on their way.

Indeed, it might pay our officials to study this colony with a view to the development of our Asiatic island possessions. The English seem able to tote the white man's burden better than any other Caucasians. They took hold of this island over 90 years ago, when it was a jungle, and they have made one part of it the most important commercial center in the Far East. They have cut down much of the tropical vegetation and have reduced it to profitable farms. They have built up on the shores of the island one of the finest cities of Asia. Singapore has 200,000 or 300,000 people. It has big business blocks of several stories, with high ceilings, double walls, and wide galleries, on account of the heat. It is a city of enormous hotels, which are lighted by electricity and cooled by electric fans. It has numerous banks with millions of capital, and also churches, libraries, museums, and schools.

CULTIVATION OF RUBBER AND PEPPER.

The enormous demand for rubber for automobile tires, bicycle tires, and other things bids fair to enrich this part of the world. The jungle is being cut down and covered with rubber plants. The Sultan of Johore sold his last rubber crop at over $2 a pound, and his plantations have yielded 2 pounds to the tree. I am told he has 160 trees to the acre and that he owns thousands of acres.

If this is true, it is no wonder that capital is pouring into Singapore for rubber investments. Scores of plantations are being set out, and something like 200,000 acres of groves have already been established. Some of the companies have paid dividends of as high as 300 per cent, while 50 per cent is by no means uncommon. The plants used are those which produce the Para rubber,

the trees coming into bearing at their fifth or sixth year. They are then tapped and, if carefully bled, will continue to produce for many years.

It is from this same region that the greater part of our pepper comes. There are pepper estates in Malaysia and in Sumatra over the way. In fact, this country was first desired by England on account of its shipments of pepper. Plantations were acquired by some London commissioners, who demanded that more and more pepper be sent. The exporters here say that there is still money in pepper, but that for the time the profits of the rubber industry surpass those of all other farming.

SOUTH AFRICA.

OPENING FOR AMERICAN STRAW HATS.

Consul-General Julius G. Lay, of Cape Town, suggests that American firms making straw hats seek the extensive South African trade:

Only the most primitive kinds of straw hats for children are made in this country. They do not enter into competition with imported straw hats. As straw hats are worn in this country every month of the year there is a large sale for them, and this market is well worth the attention of American manufacturers. Up to the present, no straw hats from the United States have been seen here at Cape Town, although there is no prejudice against American-made hats, as can be seen from the fact that American felt hats are well known and are stocked by many merchants.

The supply of straw hats comes principally from Luton, England, and the styles made and worn in England are those in demand here. An effort was made recently to establish a factory at Cape Town for making men's, women's, and children's straw hats, and experienced workers were brought from Luton, but it is stated that owing to lack of capital, poor management, and the discontent of the imported workers, the project failed. It is not thought now that a straw-hat factory could be made to pay. Workers transplanted from the climate, conditions, and surroundings of Europe or America would, for several months, be dissatisfied here, and Cape Town is, it is thought, too far from the centers of fashion to make it possible to keep in touch with latest styles of ladies' straw hats, which is most essential in order to maintain the confidence of those in the trade, and it is in the manufacture of ladies' hats that the greatest profits are said to be made.

As it is not likely that straw hats will be manufactured in this country for some years to come—the failure mentioned acting as a deterrent—the field is exceptionally good for exploitation by American manufacturers of straw hats. If they can produce the styles and quality desired at competing English prices, a share of the trade should result.

The customs tariff on straw hats, by the South African Customs Union, is 15 per cent ad valorem, with a preference of three per cent ad valorem on British-made hats, and the same tariff is charged for braided straw imported for their manufacture. Unmanufactured grass or straw, except dried and cleaned, used in hat making is entered free of duty.

Men's straw hats are now packed in large cases without being separated into small cartons or cardboard boxes. The greatest economy in packing is essential as the cost of importing, including the

customs duty, is at least 35 per cent on English cost, and on ladies' hats runs as high as 60 to 75 per cent. There are direct monthly steamers from New York charging about the same freight rates as from England.

American manufacturers who are looking for trade in South Africa in straw hats should first ascertain if they can compete with the British, principally Luton, manufacturers in prices, and what styles and makes are most in demand. They should then place samples with a competent representative who can call on the trade with samples and solicit orders. It is said that Continental styles do not meet with favor in this country. Styles prevailing in England are strictly adhered to. The men's straw hats now selling most rapidly are those costing 27s. ($6.57) to 35s. ($8.52) per dozen in England.

[A partial list of Cape Town concerns who, the consul-general says, would represent American manufacturers may be obtained from the Bureau of Manufactures.]

GERMANY.

A FIELD FOR AMERICAN INSTRUMENTS FOR THE DEAF AND INVALIDS.

Consul Ralph C. Busser, of Erfurt, furnishes the following information concerning the trade in Germany in electrical instruments to enable the deaf to hear and in devices for invalids in general:

Instruments to enable the deaf to hear, as well as appliances for invalids and disabled in general, are sold in German cities mostly by dealers in hospital and surgical supplies (Bandagisten), not by druggists and apothecaries. Druggists in Erfurt do not sell electrical devices for the deaf and those of defective hearing, with the exception of gutta-percha ear trumpets of various forms; owing to their cost—one instrument costing $11.90 in Berlin—and liability to get out of order, they do not consider it profitable to keep them in stock.

UTILIZING PARCELS POST.

German manufacturers of novelties and specialties, including hearing devices, frequently drive a thriving trade by mail order, through advertisements in the literary and illustrated periodicals entering the homes of families in all parts of the Empire. American exporters can ship to German addresses parcels up to $50 in value, not weighing more than 11 pounds, and the measurement of which does not exceed six square feet, or three and one-half feet in length, but owing to the fact that the parcels-post convention between the United States and Germany does not provide for shipping such parcels c. o. d., it is necessary to collect for the same by other means, which entail considerable expense and trouble. If, however, the American firm has a branch office or representative in Germany to whom consignments can be made on the firm's account, the German postal service can be utilized in transacting the business; and no difficulty will be encountered in making collections, as packages may be sent c. o. d. anywhere in the German Empire, provided the amount to be collected is not more than $190.40. American manufacturers, who believe that their goods could be profitably marketed in this manner, should

exercise the utmost care in selecting a manager or representative to establish and operate the German branch of the business.

The German parcels-post system, as well as the railroads, are owned and operated by the Government, and the service is so prompt, reliable, and cheap as to provide an excellent medium for conducting a mail-order business.

ADVANTAGES OF MAIL-ORDER BUSINESS.

The German postal service provides an economical and efficient mode of effecting sales of articles that can be attractively advertised in popular magazines and easily transported to all parts of the Empire. On the other hand, to attempt to market such novelties as electrical hearing devices through dealers in various towns will be found up-hill work, to say nothing of the accompanying expense, risks in extending credit, and probable inadequate results or possible ultimate loss. If dealers in Erfurt and other towns are too conservative to lay in a stock of German electrically operated instruments for the deaf, it is hardly likely that they could be persuaded to invest in the American hearing devices, especially if manufacturers insist upon cash accompanying orders.

Among the advantages of a mail-order business in Germany to American manufacturers of hearing devices, and of other specialties to which the foregoing statements are applicable, are the following: (1) The business is transacted on a cash basis; (2) capital can all be utilized in getting the business; (3) no expenses for salesmen; (4) literature sent only to those interested, thus avoiding the enormous expense of promiscuously circularizing the dealers all over Germany; (5) pushing the trade does not depend upon dealers, most of whom would not advertise, draw special attention to the goods, or adequately extol their merits; (6) economy in export shipments, as consignments are all made to the German branch; (7) as the manufacturer or his agent is dealing directly with the consuming public, the house is in a position to reduce prices if necessary to compete with rival domestic products. [The addresses of dealers in hospital supplies in Erfurt, Gotha, Eisenach, and Weimar, transmitted by Consul Busser, are on file in the Bureau of Manufactures.]

CANADA.

DAIRY SUPPLIES IN PRINCE EDWARD ISLAND.

The attention of American manufacturers of dairy supplies is called by Consul Frank Deedmeyer, of Charlottetown, to the market for their goods in the Canadian Province of Prince Edward Island. He writes:

The dairying industry had declined from an output of 4,457,519 pounds of cheese and 566,587 pounds of butter in 1900 to 2,507,853 pounds of cheese and to 466,587 pounds of butter in 1908. In 1909 the production of cheese rose to over 3,000,000 pounds and that of butter to 550,000 pounds. Operators of dairies look forward to an increased demand in 1910, and many establishments will be enlarged, repaired, and refitted. [Lists of cheese factories and creameries in Canada are on file for consultation in the Bureau of Manufactures.]

FAULTY AMERICAN PACKING.

BRITISH INDIA.

COMPLAINTS OF MADRAS MERCHANTS.

Consul Nathaniel B. Stewart furnishes the following report covering the complaints of Madras merchants concerning the faulty packing of American goods, and the carelessness of American exporters in filling orders from India:

Recently the manager of a large importing firm of Madras, a house which handles more articles of American manufacture than any other in South India, and which has always shown a readiness to accept American goods, if salable, spoke of the trouble the firm frequently has on account of articles ordered from American dealers being improperly packed for the long voyage to India, and through inattention to requirements in filling orders. To illustrate the matter, I was shown a consignment of milk testers from an American manufacturing concern which had been packed with the metal parts in the same case with the sulphuric acid. The acid had been sealed with corks only and long before the consignment reached its destination had eaten through the corks, reached the metal parts of the testers, and so corroded them that not one could be used. The whole thing demonstrated clearly that there had been ignorance or carelessness and perhaps both on the part of the shippers. They were naturally requested to make good the loss to the consignee, but refused absolutely to do so.

As a further illustration of careless packing of goods shipped by American dealers to the above-mentioned firm, occasioning trouble and loss, the manager showed me two consignments of clocks lately received from two different manufacturers, both of which had been rather badly damaged in transit. The clocks were wrapped in paper and placed loosely in their cases with no other protection. Compared with these two consignments from the United States there was a consignment of clocks received at the same time from England, to which no damage had been done.

CARELESSNESS IN FILLING ORDERS.

Regarding carelessness in filling orders on the part of American houses that are looking for foreign markets I was informed of an order placed by the above-mentioned firm early in August, 1909, with a fruit canning concern for goods for the Christmas trade here. The order was acknowledged, but no advice has yet been received of the shipment of the goods, and there is no possibility of their now (December 2) reaching here before the end of the year.

The result of instances like the foregoing being to drive foreign purchasers to form a prejudice against and avoid ordering goods from a country where such treatment is shown them, I would, therefore, impress upon all American dealers who desire to compete with Europeans the absolute necessity of attending with care to every detail of each foreign sale. Many, of course, do this. But those who do suffer from the shortcomings of the many who do not.

[The correspondence concerning the packing of the milk testers, furnished by the Madras firm to Consul Stewart for the information

of American exporters, is on file in the Bureau of Manufactures. It consists of the following communications: Letter from the Madras firm to the New York shipping house; two letters from the Ottawa (Ill.) manufacturers to the shipping house, wherein they refuse absolutely to make good the losses; a letter from the New York shipping house to the Madras firm, wherein the two letters of the manufacturers were inclosed; letter from the Madras firm, exculpating the shipping house from all blame in the premises, wherein the following sentence occurs: "We have never had a business transaction treated with such levity, and if this is characteristic of American hardware merchants we would rather avoid business relations with them in the future;" also two letters relative to the consignments of clocks.—B. of M.]

MEXICO.

AMERICAN GOODS ARRIVE BADLY CONFUSED.

Much interest has been aroused throughout the United States toward an improvement in packing merchandise for shipment abroad through the publication by the Bureau of Manufactures of the illustrated monograph "Packing for Export." Consul William W. Canada, of Veracruz, mentions a number of additional cases in the shipment of American goods to Mexico, with the hope that it will help correct the evil.

The following shows the condition of recent shipments of goods from the United States on their arrival at Veracruz:

No. 1. A shipment of broom handles consisting of 1,000 bundles of 50 each, the lot weighing upward of 18 tons, was discharged from steamship Norheim on January 12, 1910, coming from New Orleans. These goods were shipped by a firm in Tennessee to a resident of Purga, Veracruz. The bundles had been tied with rope yarn and thus shipped, with the natural result that many handles slipped out and the packages fell apart. The goods were scattered all about and greatly cut and bruised. There was not a mark, tag, sign, or number to show the name of either consignee or shipper. The proper manner of packing such goods is to sew them up in bagging, each package marked and numbered in consecutive order.

No. 2. A lot of 545 kegs of track bolts for the Veracruz al Istmo Railway weighing 52 tons was recently unloaded from the steamship Merida, of New York, which arrived at this port on January 3, 1910. The goods were shipped by a factory in Pennsylvania. The shipment arrived in bad order. Fully 10 per cent of the packages had been broken open and their contents scattered about, so that they had to be gathered up and packed into sacks. In fact, some of the goods arrived here already in that condition, which goes to prove that the package was not strong enough to bring the goods to ship's side at point of embarkation in New York. The tops and bottoms of these kegs should have had battens put on across the grain of the heads and sunk below the line of the chine.

No. 3. The steamship City of Mexico, from New Orleans, which arrived here January 11, 1910, brought a consignment of 20 boxes of bolts and nuts for a house in Mexico City. Of these, nine boxes arrived in bad order. The goods came from Ohio. The material of which these boxes were made is too light to stand the weight of 215 pounds, which they contained. They were not even strapped, and as the broken boxes are beyond repair, it will be necessary to purchase new ones and repack the goods before they can be forwarded to their destination.

No. 4. The same vessel brought a shipment for a Vera Cruz consignee from New Orleans, among which were two bales of oakum, a small matter in itself. However, these goods were actually torn apart, the baling wires had disappeared, and the stock had been rolled up into a ball and smeared over with the dirt from having been tossed about. Such material should have been well

baled and wired for repeated handlings—as all export goods receive—and then covered with bagging to prevent soiling the stock.

No. 5. A firm in Illinois ships large quantities of ink to Mexico, and these shipments are invariably in bad condition upon arrival here. The bottles are broken and the ink stains other and more valuable goods. The boxes used are entirely too fragile for export trade and no precautions are taken in the way of strapping the cases.

No. 6. Another Illinois firm ships its products in cases that as far as the material is concerned are sufficiently strong, but these should have been strapped or at least bound with wire. In a shipment of headlights for the Interoceanic and Mexican Railway Companies, the goods arrived in bad order. The cases were broken, and some of the fixtures belonging to the apparatus, packed in smaller boxes and placed within the larger ones, were lost and left behind. They were recovered after much delay and trouble, for they bore no marks for identification. This was by no means an isolated case with the goods of this company, for every shipment that reaches this port arrives in the same bad order.

No. 7. Lamp chimneys, boxes of railroad picks, axes, sledge and other handles, etc., as a general thing arrive here in bad order. There is no specific case to refer to. It is safe to say that on every lot of goods of this class there is an expense for carpenters and laborers to cooper up the packages, so as to permit of their being forwarded to their final destination. All of this trouble might be avoided by strapping the cases with hoop iron before leaving the factory, for such work costs heavily here and the expense is all charged up to the consignee of the goods.

In almost every instance the fault lies with the shippers for their want of care in packing and sending out their goods with apparently the only idea of getting them off their hands.

AMERICAN CONSIGNMENTS ARRIVE IN DAMAGED CONDITION.

The Ward Line steamship Monterey, arriving at Veracruz in January, discharged a shipment of 312 bundles of fine-grade yellow poplar lumber, tongued and grooved, shipped by an American firm for use in constructing a private car for officials of a railway company.

The shipment was forwarded without having been either boxed or crated, but instead was put up in bundles of six pieces each, with a string tied around each end, as though the lumber had been intended for city delivery at home. Many bundles had become loose, and the stock was splintered, especially on the tongued and grooved edges, thus rendering much of it useless for the purpose intended.

The rope-yarn used in tying up these bundles of lumber is quite inadequate in view of the handling given to such merchandise. If the lumber had been intended for reshipment to the interior it would have been entirely useless upon reaching its final destination.

ILLEGIBLE MARKS ON IRON PIPING.

An unusually heavy shipment of iron pipe, consisting of 1,538 pieces and 990 bundles, was recently discharged at Veracruz from the steamship Merida, of New York, consigned to four houses here and in other parts of the Republic. These goods were shipped by an American firm, and were received in a deplorable state of confusion. The task of separating each lot was, for want of proper marking and tagging, a long and tedious operation. The entire shipment had to be selected piece by piece by checking with the invoices, measuring, and sorting out the entire lot until something like order had been secured. A loss of several days was thus caused in getting the several consignments under way for their destination in addition to the expense of the labor. The usual custom here is to load imports for the interior from the ship's side, but in this instance,

owing to the lack of marks on the goods, the customs officials would not permit the loading until all of the different lots had been sorted and piled up. Then the whole shipment was again checked with the invoices to insure correctness.

The goods of this American firm have been coming here for years, and there has always been confusion and claims for shortage. The firm, before shipping pipe, smears it with grease, and this often obliterates the white shipping marks. To bundles of smaller sized pipe zinc tags with diminutive letters stamped thereon are attached, and in the handling of these bundles the tags get battered and out of shape, so that the marks can not be read. When bundles become untied the tags are lost altogether. It may be argued by the shippers that the greasing of the pipe is necessary for its preservation, but similar goods coming from Europe are never received in this condition, and arrive clean and plainly marked.

DEFECTIVE PACKING OF FINE BOOK PAPER.

A consignment of 75 cases of fine book paper recently arrived from New York by a Ward Line steamer, and when discharged at Veracruz was found to be in a very bad condition. These goods had been consigned to a house in Mexico City for delivery to a printing and lithographing establishment at that place.

The cases containing this shipment were made of a poor grade of green lumber, cut out of slabs, much of it still with the bark on and all of it full of knot holes. Such stuff is not fit for packing heavy merchandise like paper, even when bound with a single strand of twisted wire. The result is shown by the fact that many of the cases were broken, causing considerable labor for recoopering to put the shipment in condition for being forwarded to its final destination, at the cost of the consignee.

This is not the first lot of paper to arrive here in bad order, some in a still worse condition than even the before-mentioned lot, and in several instances the contents of the cases were seriously damaged owing to their having gone to pieces. It is absolutely necessary that better and stronger packages be used for goods of this nature, and they should be further strengthened by being provided with double strands of twisted wire on each end of the case.

SHIPMENTS FROM UNITED STATES TO MEXICO POORLY PREPARED.

Two additional instances of recent date when faulty American packing caused damage to merchandise and expense and delay in forwarding goods to their final destination in Mexico City are reported by Consul Canada:

A vessel arriving from New Orleans, on March 18, discharged at Veracruz seven crates of wagon spokes from a firm in Ohio and 39 bundles of wagon fellies shipped by another Ohio firm. All these goods arrived in the worst possible condition; the crates containing the spokes were all in pieces and contents strewn about the landing pier. They had to be gathered and put into some sort of a receptacle to get them into the government warehouse. The hubs were even in a worse plight, and they had to be placed in a large case to insure their safety. The bent-wood fellies were mostly all in pieces; some of them splintered and others with their edges mutilated. In case

the original packages can not be repaired, none of this shipment can go forward until new packages have been made. The costs will go against the shipment. All this trouble and expense could have been avoided if the boxes and crates had been strapped. This is not an isolated case, but the same thing has occurred heretofore with this class of goods, though nothing has been done to remedy the evil.

HOW AN AUTOMOBILE SHOULD NOT BE SHIPPED.

A steamer arriving at Veracruz from New York on March 18 brought a fine, large automobile for a concern in Mexico City, shipped by a Massachusetts house. The machine was simply inclosed by an open slat crate, with pieces of thin cotton sheeting on the inside to cover contents. The crate was well made, but neither it nor the inside covering afforded any protection from the elements to this fine machine, for on the two days succeeding the unloading from the vessel there were heavy rains, but thanks to the vigilance of the terminal company's employees, who covered the crate with a heavy tarpaulin, no moisture reached the crate or its contents, and the customs authorities gave instructions to load the machine on a flat car for the road.

The name and address of the consignee were stenciled plainly on the crate, but the initials of the firm to whom the car was going were found to have been marked on with a blue pencil. Upon further examination of the package it was discovered that the shippers had called the crate a box on the shipping documents, and on these same papers a number had been given the package, which it did not have. All this confusion and lack of care in shipping the automobile caused a cessation of proceedings, and the customs authorities ordered the machine to be unloaded again. Then they proceeded to weigh it, the flat car also; then the machine was reloaded on the car and the both were weighed together; finally the platform was ready to go on its route. The question might arise as to why the authorities were so particular about having the automobile weighed, and the answer is that there were so many inaccuracies in making out the documents that there was room to suspect that the steamer had delivered some other machine than that called for by the shipping papers.

The freight transit from here to Mexico City consumes time on the railroad, which leads over high mountain ranges, where torrential rains are of almost daily occurrence at this season of the year, and the chances for getting the automobile to its final destination without being thoroughly wet are slight.

The question of packing and marking goods may seem a trivial matter at the other end, for no thought is apparently given to the endless tangle that it leads to here, besides the delay and trouble caused and the chances of having the car damaged by the rains. Automobiles ought not to be shipped in crates, but always in strong cases with either tarred felt roof and sides, impervious to water, or in cases, metal lined and soldered, so that no moisture can penetrate through tops or sides. There is imperative need for this, when it is considered that all such heavy and bulky freight must go forward on open flat cars, for the box cars on these roads are not furnished with side or end doors sufficiently large to admit an automobile, as in the United States.

PORTO RICO.

PACKING SUGGESTIONS FOR OVER-SEA CONSIGNMENTS.

Special Agent John M. Turner having witnessed the discharge, at San Juan, of a consignment of canned goods from the United States to Porto Rico, and noted the great loss resulting from faulty packing, suggests, in the following the obvious remedy of iron bands for the cases:

Packages of goods from Europe arrive in West India ports in fine shape. All cases are strapped, well marked, bound on the corners, and of heavy enough material to endure the handling. American shipments, on the other hand, are often deficient in many or all of these particulars, the shippers evidently not realizing the severity of the strain put upon packages, which must be transferred from rail to steamer and forwarded later by various methods to interior points. All shipments in cases, such as groceries, canned goods, boots and shoes, dry goods, etc., which are to reach over-sea ports in good shape, should be iron bound.

Having been present recently when a steamer from the United States was discharging at San Juan, P. R., a shipment of 2,500 cases of canned salmon, the writer could not help but wish that the shipper had also been there to see the lot—not the man who merely marked the cases and looked after the receipts, but the one who signs the checks and whose pocket is affected by the profits or losses of the business.

MANNER OF DISCHARGING CARGO FROM SHIPS.

The gross weight of the cases of salmon is about 60 pounds each, there being 48 pound cans in each case. About 6,000 cases reach Porto Rico annually from the United States. In unloading the consignment mentioned about 20 cases were placed at a time in a rope net for hoisting from the ship's hold and swinging out over the dock. The goods, under the supervision of the chief officer, were well handled, and no fault could be found with the method or care taken, yet in every net of cases three or four were broken open and the cans came out of the cases, running the risk of punctures from nails or dents from the cases. The unbroken cases were removed and the others set aside to be repaired, the dock hands having gathered up the loose cans and replaced them as far as possible in cases, except a few that disappeared in the garments of roustabouts. Even with great care in handling the whole cases after they were on the dock, more of them broke open, and time was lost in renailing them. An hour after the unloading began the dock was strewn with canned salmon, loose and in broken cases.

The attention of the agent of the steamer line was called to the loss on the salmon, and he was asked if it could not be prevented. "Come to my office," he said, "and read the letters I have written our New York office about taking this unstrapped case stuff. We do not assume any responsibility for loss or breakage, and will not until they strap the boxes." The chief officer, who had charge of the cargo, was then asked if there was not a way to stop such losses on shipments of salmon. "Stop it!" he said. "Certainly it would be stopped

if the man who has the loss to pay would make a trip with his canned fish and see it discharged." Continuing, he said in substance that the cases of salmon were received only "at the owner's risk," as they were not strapped. He also said that after leaving New York he had employed a number of the crew for two hours in renailing some of the boxes that had been broken in coming aboard, and that it was really an unprofitable cargo to carry, in view of the time lost in handling it.

MANUFACTURER OR SHIPPER MUST BEAR LOSS FROM HANDLING.

The agent to whom the consignment was addressed having appeared, he was asked what he thought of the mess. He replied: "Oh, this is the usual thing with canned salmon. I have talked to the shippers about strapping their cases, and they claim that it would add 5 cents per case to the cost, and that the cases are strong enough without strapping. It is easy to see, however, that they do not understand the situation, for much of this fish will go to distant parts of the island and some will be hauled on ox carts. The loss on the 2,500 cases will no doubt be quite 5 per cent before we get our money." To the question as to who would bear the loss, he replied: "The shipper will stand the loss, to be sure. Do you suppose we can stand it, with our small commission?"

This shipment was from Seattle. The boxes had cost a fair price, being well made and of wood heavy enough to stand the journey; they were also clean and well marked. These features led the writer, in the interest of the man in Seattle, who will have the bill to pay, and who will doubtless think unkindly of the consignees here, to make efforts to find the cause and the best remedy—to point out, in fact, a way to prevent the loss and yet not have it cost anything. Importers here and their agents are actually charged more for goods shipped in strapped cases, and they have therefore been forced to change their method of buying from f. o. b. steamer to c. i. f. here, thus throwing the burden of claims on the manufacturer or shipper in the United States. Adding to the cost of packages merely for strapping them must come from a lack of knowledge or consideration on the part of manufacturers, for they seem to use just as heavy nails for strapped as for unstrapped cases. This should not be done.

The saving through the use of lighter nails will offset the cost of the strap. It is not so much the nail as the iron band that holds the case together.

HOW TO PREVENT BREAKAGE IN TRANSIT.

The cases in this shipment were made of good material, the tops, bottoms, and sides being of half-inch clear stuff and the ends seven-eighths inch, nailed with 1½-inch smooth, bright wire nails, probably 5-penny box nails. Herein lay the fault. Such nails driven through the tops or bottoms into the ends of the cases entered with the grain of the wood of the ends, and were unable to stand the strain of the 48 cans against either top or bottom. Allowing 26,000 nails in a keg of 5-penny box nails, 720 such boxes could be nailed with this quantity, there being 36 nails in each. A 4-penny cement-coated box nail should have been used, together with band iron. As a keg contains 45,500 4-penny nails, 1,260 boxes could be nailed with

them, and with the strapping these cases would be much stronger than if nailed with bright nails only, while the saving in nails would pay for the iron. It may therefore be held that it would not cost the manufacturer one cent more to use such a nail and a strap than it cost him to ship as he did. The theory is that the heat developed in driving the cement-coated nail causes the melting or softening of the cement coating and its adherence to the wood. In any event, whether bright or cement-coated nails are used, all such shipping cases should be strapped for over-sea transportation.'

ROLLER SKATING IN EUROPE.

SWITZERLAND.

POPULARITY OF NEW SPORT IN ALPINE CITIES.

In stating that roller skating has made its appearance in Switzerland, Consul Francis B. Keene writes from Geneva:

For some time past asphalt pavements of Geneva have been used for the sport by children, but no rink has yet been established. Lausanne, the chief town of the neighboring canton (Vaud), follows the fashion of the moment more closely, and the first roller skating rink in the country was recently opened. The winter sports have been so much reduced, owing to the extreme mildness of the winter, that the rink is sure to be a success and no doubt more rinks will be established.

It seems therefore advisable that American manufacturers should try to get a footing in the trade by sending price lists in French, and illustrations of their articles, to the principal dealers both in Geneva and Lausanne, of which a list is forwarded [and may be secured from the Bureau of Manufactures].

GERMANY.

OPENING FOR A ROLLER-SKATING RINK IN MANNHEIM.

In reference to roller skating in the German city of Mannheim Consul Samuel H. Shank says that indications point to an early development of the sport, concerning which he writes:

Until a short time ago only children were seen on roller skates, but recently a few adults have also taken advantage of the well-paved streets. This is partly because there has been so little ice skating the past winter, owing to the unprecedented warm weather. The two makes of American skates on sale here are from the Union Hardware Company, of Torrington, Conn., and the Winslow Company, of Worcester, Mass. These have been in the dealers' hands only since Christmas time, and some trade has been done. They are mostly the better grades and retail at $3.80 to $5 a pair. German skates are offered as low as 60 cents, with some better grades at $3.90.

A large business in this line will hardly develop until a rink has been started. An effort was made last fall to organize a company for this purpose, but a suitable building could not be rented, and the funds were not available to erect one. I am informed by a business

man here [name obtainable from the Bureau of Manufactures] that he is ready to start a rink if he can make the right kind of arrangements with an American firm to supply the skates. This would seem to be an excellent opportunity for investment. Mannheim, Ludwigshafen, and the surrounding suburbs have a population of about 300,000, with practically no amusements except theaters and concerts. The German is fond of sports, but ice skating and coasting are all that are afforded in the winter, and owing to the mild climate in this section these can not be indulged in to any great extent.

I am informed that about $15,000 is required to start a rink. Those interested here think that an admittance fee of one mark (24 cents) could be charged and half that amount for rent of skates. Another source of income would be the buffet, which is invariably attached to all places of amusement in Germany. If these estimates are correct, it would indicate an earning of over 100 per cent on the investment. Skate manufacturers of the United States are said to have invested in rinks in various cities in order to start the sale of their goods. There is an excellent opportunity at this point.

ENGLAND.

CESSATION OF THE RINK BUSINESS IN YORKSHIRE.

Consul Augustus E. Ingram, of Bradford, says that the English boom in roller skating, in Yorkshire at any rate, seems to be drawing to a close. He writes:

The American roller rink in Bradford, opened in November, 1908, has just closed its doors. Owing to competition with the other three rinks in this city, prices of admission and for skates were recently reduced, but the receipts, which in the early days of the enterprise averaged $1,500 to $2,000 per week, have steadily diminished. The managers, who have opened halls not only in London and in 28 provincial towns, but also in Paris, Berlin, St. Petersburg, Vienna, Warsaw, Amsterdam, Copenhagen, and elsewhere, therefore decided to close the Bradford rink. Only one dividend of 10 per cent has been paid on the Bradford investment, and the local shareholders are now considering the advisability of reorganizing the enterprise in order to recoup themselves. It is of interest, however, to state that the manager of a roller rink that has also just been closed in Leeds is reported to have said that he was of the opinion that—

> Rinking in the North of England is dead. In London and on the Continent the rinks belonging to my firm are doing better than ever, and the skating craze or boom shows not the slightest sign of waning—it is rather on the increase.

It is evident that the days of big turnovers and handsome dividends in these enterprises in the North of England are past. Private information has also been received of another skating rink in this district that is in financial difficulties; two rinks in Sheffield are also reported to be in a similar condition; and in the local press recently the following statement also appeared:

> Owing to the depression in the cotton trade the skating rinks at Burnley, which at one period of the boom drew $5,000 weekly, are being less extensively patronized, and three of the smaller ones have had to close their doors.

WAGONS AND VEHICLES.

SOUTH AFRICA.

BUGGY AND CARRIAGE GEARS AND OTHER SUPPLIES.

The following report is submitted by Consul Edwin N. Gunsaulus, of Johannesburg, in reply to several inquiries from American manufacturers of gears and other supplies for buggies, carriages, and wagons, concerning the market in South Africa. It deals more especially with gears, and is supplementary to his article published in Daily Consular and Trade Reports of July 31, 1909, on carriages and supplies.

Gear parts are imported into this country almost exclusively for buggies and spring wagons, the gears suitable for dead axles being fitted almost entirely locally. The importation of gears into South Africa is confined almost exclusively to those carrying a weight not exceeding one ton, because when a heavier gear is required, the component parts being necessarily heavier, the axles and springs for same are imported separately. The gears imported to this country are of the kind suitable for light delivery wagons and buggies, and are composed of axles with beds and springs mounted, and are always obtained in the white or unfinished wood. In addition to this the whole of the undergear, such as side bars, shafts, and poles with couplings complete, is also imported. The importation of wheels is usually given as an entirely separate order, and the wheels arrive in the white wood tires.

I am informed by a prominent Johannesburg dealer that there should be a large market for all white-wood wagon work, and the same applies to buggies, for which there should also be a considerable trade, although some difficulty has arisen in the importation of buggies in white wood. Practically the same style of gear which obtains in the United States is adaptable for use in South Africa.

Furthermore, there is little reason to doubt that a larger trade might be secured in all parts of vehicles, such as seats, trimmed and untrimmed, and bodies (piano and other shapes). There is also quite a large business in tops or hoods, chiefly trimmed in rubber duck. There is an extensive trade in shafts with bars, complete and unmounted, and poles in the same condition. Nearly all supplies in the way of rims, spokes, and hubs are imported from the United States.

SPAIN.

MARKET FOR WAGONS AT BARCELONA.

Consul-General Frank D. Hill states that Barcelona offers a poor market for wagons and parts of foreign manufacture for the following reason:

Local Spanish competition is very active. Over 30 local firms make carriages and wagons, most of them building the whole wagon from start to finish. Various styles of heavy wagons are used. Drays and delivery wagons are similar to those used in American cities, although much of the heavy traffic is performed by heavy two-wheeled carts drawn by mules. Local firms put wagons on the market at a price which makes it almost impossible to import from abroad. There

are no houses at Barcelona which import carriages of foreign make. [Lists of carriage makers at Barcelona and importers and dealers in vehicles and materials for same in South Africa may be obtained from the Bureau of Manufactures.]

PORTO RICO.

NEW LAW ABOUT TO PASS FOR HAULING FREIGHT ON HIGHWAYS.

Special Agent John M. Turner writes as follows from San Juan on the proposed Porto Rican law for vehicles using the public roads:

The island of Porto Rico is about 100 miles long, 40 miles wide, contains about 3,800 square miles, and has a population of about 1,000,000. A railroad runs part way around the island, skirting the coast line, from San Juan to Ponce, via the ports of Arecibo, Aguadilla, and Mayaguez. Steamships visit all the ports mentioned to bring and take away cargo. This report will deal with the methods employed to get the freight to and from the interior.

The island has about 1,000 kilometers (kilometer=0.62 miles) of first-class stone-built roads leading back from the ports, and it is proposed to extend them as rapidly as money is available. Their maintenance now costs the island about $300,000 per annum, or quite $300 per kilometer. This is regarded as high, and the cause of rapid deterioration has been closely studied by those in charge. Nearly all the traffic has been by two-wheeled carts of heavy construction, usually drawn by four oxen, two being yoked to the pole and two leading. The grades are quite heavy in places, requiring the four oxen to draw the loads up the hills.

The average load of these bull carts is three tons, the cart itself weighing about 1,500 pounds, so that the weight is in all cases over 7,000 pounds, and it is claimed that this weight carried on two wheels is very destructive to the roads. In order to reduce this as much as possible, the use of four-wheeled wagons is being encouraged, and a law is now before the legislature, with excellent prospects of passing, which will rule the ox cart off the main roads after 1914 and requiring those used up to that time to have wheels with 5-inch tires. The regulations for four-wheeled wagons require a 2-inch tire up to 2,000 pounds, a 3½-inch tire between that and 3,500 pounds, and a 4-inch tire for capacity beyond 3,500 pounds.

As the ox cart has been in use on the island since the advent of the white man, the legislation against it naturally excites some comment. In theory the ox cart offers the cheapest available method of transporting merchandise, but in practice it figures out differently. The carts are so built that, when properly placed on the cart, the load will balance and the oxen simply pull the load. It is claimed, however, that in going up the hills the load tips back, nearly lifting the pole team off its feet, and leaving the load to be drawn by the lead team, while in going down the hills the load pitches forward, throwing all the weight on the pole team, leaving no work for the lead team. In moving from one side of the road to the other it is said the ox carts cut into the roads much more than four-wheeled wagons would; hence the desired change.

Wagon makers of the United States should note the new tire regulations, which will go into effect on October 1, 1910, and all makers will be safe in figuring on wide tires for Porto Rico.

OFFICE FURNITURE IN ITALY.

TURIN.

FIRST-CLASS AMERICAN-MADE ARTICLES ARE APPRECIATED.

Consul Albert H. Michelson, of Turin, expresses the opinion, concurred in by certain Italian business men in his district, that there is a substantial market in Italy for American office furniture. He says:

The American office furniture, consisting of desks, sectional and revolving bookcases, sectional and vertical filing cabinets, tables, chairs, etc., recently forwarded by the Department of State to this consulate, has greatly interested a number of Italian business men who have examined it. The best Italian office furniture is, as to finish, usefulness, and durability, below the standard of the cheaper grades of American furniture, and is expensive. It is usually built to order and, so far as design is concerned, closely imitates American models. The writer recently examined some of this furniture for sale at retail in Turin at the following prices:

Roll-top oak desk, imitating best American type, with swing sides for extending writing surface, and eight large drawers, 55 by 34 by 51 inches, $74.40. Same, but 55 by 34 by 41 inches, $68.50. Flat-top desk of oak, good American type, with nine drawers, 55 by 34 by 31½ inches, $44.40. Bookkeeper's desk of oak, American type, with inclined top, eight drawers and ledger closet, 55 by 28½ by 49 inches, $49.50. Office chair of oak, standard American type, with arms, swivel, and swing back, $13.

As compared with American models all of this furniture was inferior in finish, solidity, and smoothness in moving parts, and lacked much in appearance. The better appearance of American office furniture is, in fact, striking, and must have considerable influence with buyers. Another important point in favor of American office furniture is that it is known not to be liable to warp or crack, while considerable difficulty is often experienced with Italian furniture on this account.

Quite recently a Turin company has begun to manufacture sectional office furniture after American models. This company charges $6.50 for a book section with disappearing glass face, and $66.50 for a filing cabinet composed of said book section, 8 storage drawers, 10 card-index drawers, and 12 document file drawers. This sectional furniture is not as good in grade as the furniture above mentioned.

EXHIBITING AMERICAN FURNITURE.

American manufacturers of office furniture who contemplate entering Italian markets would do well to exhibit their products at the International Exhibition of Industries and Labor in Turin from April to October, 1911. Only articles of the better class should be shown. American manufacturers of sectional furniture will realize the importance of putting their products forward prominently in order to protect themselves from local competition which may subsequently arise. Steel furniture should not be shown on account of the low fire risks in Italy.

When shipping furniture to Italy great care in packing will be found well worth while. With the exception of one desk, the furniture recently forwarded to the consulate was packed in excelsior, and all except the desk arrived in excellent condition.

The Italian import duty on office furniture of other than common or bent wood is 50 lire per 100 kilos, or $4.39 per 100 pounds. A number of Italian cities levy, in addition, municipal dues upon all furniture entering their limits. For Turin these amount to 79 cents per 100 pounds. Freight rates on furniture from New York to Genoa vary from $12 to $18 per ton or per 40 cubic feet.

[Consul Michelson forwards the names of firms and persons in Turin, who state that they can furnish first-class references and desire to represent, in that consular district or at the coming exhibition, American manufacturers of furniture. Names of furniture dealers in other parts of Italy are also on file and may be consulted in the Bureau of Manufactures.]

GENOA.

OPPORTUNITY IN ITALY FOR AMERICAN FIRMS.

Consul-General James A. Smith, of Genoa, finds that among the better class of Italian business houses there exists a growing tendency to properly fit up their offices with modern office furniture and appliances. Mr. Smith offers some practical trade suggestions:

In Genoa many firms are bettering their office arrangements, realizing the additional efficiency secured in office work by adopting the various conveniences which such furniture affords. Up to the present time little American office furniture has been sold here. German and Italian manufacturers have agencies established in Genoa and an apparently thriving business is being done. The American furniture recently supplied this office by the Department of State has attracted considerable attention. In appearance, finish, and practicability it is superior to any we have yet seen made by the European manufacturers. Its cost is probably as high or higher, but while there will still be an active demand for the cheaper grades, we are reliably advised that a better class of furniture can be sold here if the quality and other advantages are brought to the attention of the intending purchasers. To do this properly, a reliable office supply house here should be given the agency and a line of samples of such furniture and appliances as are in current demand placed with this agency to exhibit to intending purchasers.

I am informed by a firm of this city [name obtainable from the Bureau of Manufactures], a firm dealing largely in office supplies, that they would be glad to handle American office furniture and various office appliances upon this basis, and they request catalogues, prices, terms, and other pertinent information regarding this class of goods. It is important that prices should be quoted c. i. f. Genoa, so as to enable this firm to make an exact calculation of the net cost, including duty, at this place of business, and compare such prices with those of the German and Italian manufacturers whose goods they are at present handling. Among the numerous appliances desired by this firm is an office phonograph adapted for recording dictated letters, etc., the record being afterwards placed upon another phonograph by the typewriter operator and the letter written by him from the record. This firm believes that a demand can be created in Italy for these phonographs. The firm states further that it is in a position to furnish the best of references as to its responsibility.

HOUSEHOLD LIGHTING ABROAD.

ASIATIC TURKEY.

GASOLINE AND PETROLEUM LAMPS IN ALEPPO AND OTHER CITIES.

The following information, in answer to an inquiry, concerning the use of lamps in Syria is furnished by Consul Jesse B. Jackson, of Aleppo:

Lamps of various kinds are employed here for street lighting, as well as for use in private houses and establishments, and with more or less success. The products of several American firms are quite common here, as well as those of many European houses, but the most convenient lamp for use in this particular territory is the one so constructed as to generate the gas from petroleum instead of from gasoline, the latter article being too difficult to procure and too expensive, even when it is possible to have it, none to be had except that imported from the United States, while competition bids fair to become very keen in the petroleum market, making the use of petroleum lamps much more economical to the public in general than of those consuming gasoline.

Apparatus for lighting plants or systems, where several lamps are fed from one and the same generator, should find ready sale in Aleppo and the other principal towns of this district, both for residential and mercantile use. Single lamps are on sale in the markets and appear to be always in demand, and those in use throughout the city generally give satisfaction.

In manufacturing lamps for sale in Turkey, as in other Eastern countries, special attention should be paid to fancy decorations and bright colors, as they are much appreciated by the Oriental. Such articles must also be as cheap as is consistent with good quality in order to compete with the prices of European manufacturers, who have long since perfected the art of making goods destined for this country both cheap and attractive.

SELLING METHODS.

European manufacturers have a way of getting their goods before the people and on the market that is difficult to surpass, and only extreme energy on the part of American exporters will enable them to overcome the long lead already secured in the Syrian markets. European lamp manufacturers sent their personal representatives here to demonstrate their goods and visit the trade, and thus secured the greater share of the business. Why can not American firms do the same? If it would not pay to employ a sole representative it seems probable that lamps of the kind could be placed with one of the several traveling salesmen who regularly visit Aleppo, to be carried as a side line.

Particular attention should be given to the preparation of catalogues and other literature in connection with the sale of lamps. This is not an English-speaking country. The best language to employ is French, in which all correspondence, written or printed, should be conducted. Prices, weights, measurements, etc., should be stated in French, and price lists should be forwarded in the beginning, as the distance between the United States and Aleppo is too great and the time necessarily employed for correspondence too long to

permit unnecessary delay just because of some such omission from the correspondence. Prices should be quoted c. i. f. Alexandretta or Beirut, the ports of Aleppo, instead of f. o. b. New York, or some inland city in the United States, from which the Syrian merchant can have no possible idea of the final cost to him. When prices are given as suggested the buyer knows just what is required of him; otherwise he is in doubt, and is not likely to be sufficiently interested to make inquiry and await a reply, especially when a competitor is here on the ground supplied with all the necessary information concerning his goods. [A list of dealers in lamps in Aleppo, Aintab, Alexandretta, and Antioch, furnished by Consul Jackson, is on file in the Bureau of Manufactures.]

SIAM.

OIL LAMPS AND CANDLES THE CHIEF ILLUMINANTS.

Vice-Consul-General Carl C. Hansen reports that outside of Bangkok, where electricity is used for lighting, kerosene and other oil-burning lamps and candles supply the means for lighting and illuminating purposes in Siam. During the fiscal year 1908–9 the imports of lamps into Siam amounted to $114,000, of which about $12,000 worth were from the United States, the remainder coming from Singapore, United Kingdom, Germany, Japan, Hongkong, etc. The imports of candles during the same year amounted to $109,000, nearly all from Singapore, Hongkong, and Burma, only $2,791 worth being from the United States. The import of candles is gradually increasing. Foreigners are permitted to manufacture paraffin and stearine candles in Siam, but the manufacture of tallow candles is a government monopoly, farmed out annually to the highest bidder.

The imports of matches during the fiscal year 1908–9 amounted to $267,004, and were from the following countries: Hongkong, $251,598; Japan, $10,066; China, $3,138; Singapore, $913; the balance, $1,285, from Europe. There were no imports from the United States. A bundle of oriental matches, containing 10 small boxes, is sold for about 2½ cents, against 5 cents for a bundle of European matches.

GERMANY.

PROBABILITY OF BUILDING UP A TRADE FOR AMERICAN LAMPS.

Consul Ralph C. Busser, of Erfurt, furnishes the following information concerning the usual methods of house and café lighting in Germany, and the outlook for the introduction of American gasoline lamps:

The common kerosene lamp is still used in most German homes, gas and electricity being too expensive for most people. Consequently, a house lamp furnishing light superior to the petroleum lamp, and which can be cheaply purchased and economically operated, should appeal to thrifty householders. Some improvement has been made in petroleum lamps by using a burner similar to the Welsbach. It costs about $1, and though it gives a better light, it is doubtful whether the investment is economical, as, owing to the necessity of frequently trimming the wick, and cleaning and filling a petroleum lamp, such a burner is more likely to get out of order or be broken

than the Welsbach burner in a gas lamp. Even when this improved burner is used in an oil lamp the light is still inferior to that of the American vapor gas lamp.

The majority of German families live in flats and apartment houses, where it is customary to keep a light burning for several hours in the evening at the entrance, and frequently at the stairways upon each floor. Gasoline lamps similar to the type used for porches and verandas in the United States, would be suitable for this purpose, and if well advertised should find a ready sale in Germany. German apartment houses of the better class have private balconies upon each floor, for which small gasoline lamps of ornamental construction would probably be preferred to the oil lamps now commonly used.

Cafés and beer gardens are the centers of German social life, where families, friends, and associates daily congregate, and the relatively large number of these popular resorts in every city and town creates a heavy demand for lamps that give a brilliant light. Gas or electric lamps are ordinarily used in large stores, cafés, and similar establishments, but it is likely that gasoline lamps, with their lower cost of installation and more economical operation, would often be substituded, if their merits were adequately demonstrated to the proprietors of such places.

Music and dance halls, band stands, parks, and other pleasure resorts also offer opportunities for building up a profitable trade in gasoline or vapor gas lamps.

THE TRANSVAAL.

SELECTION OF AGENTS FOR TRADE EXTENSION.

In transmitting a list of the dealers in lamps and lanterns in Johannesburg, which is on file in the Bureau of Manufactures, Consul Edwin N. Gunsaulus reports that the 65 gold-mining companies—producing companies—of Witwatersrand are probably the largest purchasers of lanterns in South Africa, and that any American lamp manufacturer desiring to secure trade in that line should select as his representative a firm from the list above mentioned, all of whom deal in lamps for household and other uses, as well as in mining supplies.

FOREIGN COMMERCE.

GENERAL TRADE REVIEWS.

GERMANY.

EXPORT OF ENAMELED WARE—COST OF THE RAW MATERIALS.

In stating that the value of enameled ironware—chiefly kitchen utensils—exported from Hamburg to the United States in 1909, was $62,833, and in 1908, $88,779, Consul-General Robert P. Skinner further discusses this German trade:

In 1909 manufactures of iron and steel, worth $159,766, were exported from Hamburg to the Philippine Islands, at least one-half of which consisted of enameled utensils. There was no reason, apparently, why all of these metal goods should not have been furnished by American manufacturers, except the desire of the importers to procure a cheap grade of ware which American manufacturers are unwilling to supply, and which finds sale, ordinarily, on bargain counters, and which is often given away as premiums by a certain class of retail establishments.

A German manufacturer of enameled metal, not of this kind, and who has had a large experience in the United States, informs me that the class of ware being exported costs less when finished, very often, than the patches which must soon be added after the articles are used. The enamel is bad, and the ware always rusts quickly. First-class supply houses in the United States prefer American ware because of its superior quality. This informant states that German and Austrian manufacturers of really first-class enameled iron utensils are not able to sell more cheaply than American manufacturers, whose output is quite as good as the best of the European, if not superior. The sheet iron, indispensable in this industry, can be made for less in the United States than in Germany, while in the latter country the necessary chemicals are cheaper.

Borax, a very important article in this business, is probably 50 per cent dearer in the United States than in Germany. All borax manufacturers must procure raw materials from the Borax Consolidated, a company with offices in London, and which sells in Europe upon the condition that no borax is to be shipped to North America.

My informant continues:

Our American friends asked us to find a firm willing to sell them several hundred tons of oxide of tin, which costs here about $700 per ton. Everybody was pleased to give us prices for our own use, but declined to sell us anything whatever for North America. Although wages are higher in America than in Germany, the labor cost of the finished article is less in the United States. The processes of manufacture are not covered by patents and all the formulæ for enameling are very much alike, although the various manufacturers all try to have some secret or special process. The basis is always the same.

The cheap goods now going to the United States are all light gage as to iron, and the work throughout is inaccurate.

In 1907 we offered our American friends a certain formula, and, to be able to figure out the cost, they gave us the prices they were then paying for the most important materials required in the manufacture of all enameled ware. At that time in the United States they were paying per ton: Feldspar, $9.40; soda ash, $20; borax, $140; fluor spar, $13; cryolite, $140.

In replying to these correspondents we made out an estimate, calculating 1,000 kilos as equal to 2,204 pounds, and $1 equal to 4.20 marks. The cost statement worked out, per 100 pounds, as follows:

Article.	North Germany.	United States.	Article.	North Germany.	United States.
Borax	$3.50	$4.75	Cryolite	$5.77	$7.00
Feldspar	.47	.47	Soda ash	1.10	1.00
Quartz (estimated)	.48	.50	Oxide of zinc (estimated)	5.40	6.00
Saltpeter (estimated)	2.35	2.50	Leukonin	10.38	28.00
Oxide of antimony (estimated)	7.00	12.00	Glass (estimated)	.43	.50
Fluorspar	.70	.65	Sand (quartz) (estimated)	.16	.20

The prices above named are all higher in the United States than in this country, but the iron should be cheaper, and the labor cost also, in spite of very much higher wages.

The gentleman quoted, a large employer of labor, asserted that wages were only apparently cheap in his industry in this country and that, with the same machinery, the same processes, and with his experience in the United States, he was unable to get the same results with an equal number of workmen.

HUMAN HAIR TRADE.

GERMAN IMPORTS AND EXPORTS—SOURCES OF SUPPLY.

In consequence of the demands of fashion, Consul William Thomas Fee, of Bremen, states that the German imports and exports of human hair greatly increased last year, as is shown by the following comparison:

The imports were 112.4 metric tons, of 2,204.6 pounds each, in 1908, and 136.6 tons in 1909, while the exports increased from 33.8 to 64.1 tons. There were imported into Germany from China in 1909, 58.7 tons, and in 1908, 38.5 tons of human hair, and from Austria, 48.6 and 40.9 tons, respectively. During 1909 there were exported from Germany to the United States 19.2 tons, against 6.7 tons in 1908.

To give an idea of the enormous quantity of hair needed to make up the weights cited, the weight of the full growth of hair of a normal woman, in good health, in the prime of life, averages about one-half pound. Chinese hair is the cheapest on account of the abundant supply. It is only used after being subjected to a complicated chemical and mechanical process to make it thinner; then bleached by hydrogen peroxide, and dyed.

The preparation of raw hair in Europe is almost exclusively done in Bohemia [an account of which by Consul Brittain was recently published in Consular and Trade Reports]. The towns of Znaim and Chotebor for decades have been especially leaders in this branch of industry. This was originally due to the abundance of raw material in these districts. Russian hair is not so well liked. The Russian peasant women wear their hair hanging down and plaited in long braids, thus exposing it to the sun.

The price of human hair is according to its length, rising by each two inches in length. The most valuable is white hair, and as senile people seldom possess a full growth, this hair must be produced artificially. At present a kilo (2.2 pounds) of white hair is worth 800 to 1,000 marks ($190.40 to $238).

In preparing human hair for sale it is first assorted, combed, and washed in boiling water, to which a weak solution of soda or ammonia is added, then assorted as to colors. The short hairs are wound around little glass bars, placed in a coke-heated kiln five or six days, when they are ready for sale as "curls."

Human hair is sold according to assortments and by means of samples. The high price has led to the introduction of many substitutes, chiefly vegetable fibers, but with little success, as all these fibers are much affected by humidity, which makes them brittle, while human hair has much more firmness, strength, and durability, and may endure a lifetime. A single human hair will bear a tensile strain of 180 grams (nearly two-thirds of an ounce).

SWITZERLAND.

LARGE INCREASE IN THE EXPORTS TO THE UNITED STATES.

The following statistics covering the trade of Switzerland with the United States during the past year are furnished by Consul-General R. E. Mansfield, of Zurich:

The exports from Switzerland to the United States in 1909 amounted to $26,981,526, the largest exports of any year during the decade 1900–1909, with the exception of those of 1907, which amounted to $30,366,060. Of the many advanced products constituting this trade in 1909, four—embroideries ($15,037,448), silk piece goods ($2,366,060), cheese ($2,226,745), and watches and parts thereof ($1,608,260)—amounted to $21,238,513. The only exports in which a decrease is noted as compared with 1908, are cotton and woolen textiles, knit goods, and chocolate.

The imports into Switzerland from the United States are less than one-half the value of its exports thereto, approximating $12,000,000 per year, composed of cotton, oils, machinery, office supplies, typewriting machines, etc.

The recent establishment on the Continent of American central agencies representing many manufacturing and exporting firms, is a move promising good results in furthering American trade in Switzerland, by enabling American manufacturers to overcome the present advantages of contiguity and quick delivery of goods possessed by Germany, Austria, France, and England, which cover Swiss territory with able and energetic travelers soliciting trade at frequent intervals.

AUSTRIA.

DEPRESSED INDUSTRIAL CONDITIONS DURING THE PAST YEAR.

A recently published industrial review for Austria in 1909 does not make a favorable showing, a summary being made by Consul Joseph I. Brittain, of Prague:

The decreased production of coal appears to indicate the general condition. During 1909 there was a decreased output of 1,250,000 tons compared with 1908.

The sale of manufactured merchandise was so reduced as to cause in many instances curtailed production, which resulted in the discharge of workers in various establishments.

The cotton spinners were among the worst sufferers, being obliged to reduce their yarn output 25 per cent. The weavers have also contemplated curtailment. The porcelain industry has reduced production 20 per cent, and the bent-wood industry, which has an extensive market in the United States, has also been depressed. Jute spinners have reduced their output 25 per cent, and with a few exceptions machine works have not been able to run full time, nor with a full working force, the same being true of railway car and locomotive works, which received few government orders. The plate-glass industry suffered materially, the reduction averaging 25 per cent, at times amounting from 50 to 60 per cent. Hollow-glassware makers curtailed about 10 per cent compared with the preceding year, 10 factories ceasing operations. The leather trade suffered severely, 4 large factories ceasing business. The brewing industry was similarly depressed. The increased cost of living and the decreased employment on full time caused the working classes to curtail their consumption of beer. The cold summer of 1909 also injured the brewing industry, the total production decreasing 132,085 gallons. The alcohol industry closed the year with a decreased output of 26,417 gallons, and the sugar mills finished operations after running five weeks, compared with seven in 1908.

In consequence of general decrease in consumption of coal two leading coal railways in Bohemia had a shrinkage in earnings of $446,600, which will necessitate decreased dividends. The dullness in various lines of manufacture has been more keenly felt on account of the continual rise in the price of food products and other necessities. There was a shortage in the wheat crop of Hungary amounting to 37,000,000 bushels, which must be supplied by importation of wheat from other countries.

ITALY.

CONSULAR INVOICES SHOW LARGE INCREASES—OTHER STATISTICS.

Consul-General James A. Smith, of Genoa, furnishes the following brief account of the American trade with Italy for last year:

The following table shows the declared value of exports to the United States from the several consular districts in Italy for the years 1908 and 1909:

District.	1908.	1909.	District.	1908.	1909.
Catania	$3,500,000	$1,798,561	Palermo	$4,999,105	$5,594,787
Florence	2,938,563	3,583,520	Rome	1,591,274	1,456,283
Genoa	1,399,197	1,967,302	Turin	1,712,538	2,200,640
Leghorn	2,447,076	3,434,072	Venice	299,115	616,362
Milan	16,994,422	20,127,768			
Naples	5,935,767	8,881,770	Total	41,817,057	49,661,065

With the exception of Catania and Rome, there was an increase in declared values in shipments from all the consular districts. The falling off at Catania, however, was largely due to the Messina earthquake disaster and the fact that for some time thereafter invoices for shipments from that district were consulated at Palermo. Total exports, according to these returns, were $49,661,065.

Official statistics from Rome give total exports to the United States in 1909 as $51,028,621, while American customs statistics of imports from Italy give them as $50,199,434. The Italian official statistics would necessarily include shipments of less than $100 in value, no record of which would appear in consular offices.

Italian official statistics give imports from the United States for 1909 as $77,167,576, while the Bureau of Statistics at Washington

gives them as only $56,850,502. The discrepancy arises, no doubt, from the difference in average value placed upon the various articles by the Italian authorities, some of which would be accounted for in the cost of transportation. It is the opinion of this office, however, that both estimates are below the real value of the American export trade to Italy. A large amount of American goods reach here forwarded by general agencies established by American houses in London, Hamburg, Paris, and elsewhere, and these would consequently appear in the statistics as imports into Italy from those countries.

ITALIAN TRADE IN INDIA.

INCREASING COMMERCE BETWEEN VENICE AND CALCUTTA.

Consul John Q. Wood reports as follows on the increasing trade of Venice with India, and the means by which such Italian trade has been gained:

In 1904, the Societa Veneziana di Navigazione a Vapore, with a capital of $800,000, entered into a contract with the Italian Government to institute a monthly service, with 3,500-ton steamships, all of which were to be built in Italy, or which had been built therein since 1898; and the company was given 16 months in which to secure its vessels, being allowed until then to use foreign bottoms to carry out the regular monthly sailings. The company at once ordered four steamships of the prescribed type, and these vessels are now, and have been for a few years, running between Venice and Calcutta, calling at Trieste and Fiume, Ancona, Bari, Brindisi, Catania, Syracuse, and several intermediate ports on the run to Calcutta. The subsidy agreed upon for twelve round trips was practically $215,000.

PLAN OF THE COMPANY.

The object of this contract between the Italian Government and the shipping company was to increase the commercial importance of the Italian ports in the Adriatic, especially Venice, and to recover the carrying trade of the latter with the East, which has been practically monopolized by the Austrian lines since 1836, and to find markets for the increasing products of new industrial Italy.

In 1904, also, the company made a freight contract with the Italian railways by which the Italian merchant was offered most attractive through rates for his goods from the industrial centers of north Italy, but, still more important, made arrangements to give round-trip tickets to commercial travelers selling Italian products exclusively, and to carry their samples free. Several instances could be cited of the company carrying, free of charge, shipments of articles for trial, as for example, a large consignment of cement, recently sent to Calcutta, which met with great favor, and now a rate of $1.70 per ton has been established for this class of goods. This experiment bids fair to help build up a fine business for the cement industry of Italy. The company has reduced the freight on sulphur from Sicily to Calcutta from $5 and $7 to $3 per ton, and has also established a bureau of information, and sent out to the principal shipping houses in Italy detailed information concerning the places touched by its ships, the goods mostly in demand there, and the current market prices. This source of information has proved most

valuable to the Italian merchants, and many commercial travelers have been sent to the different countries to solicit trade, at small expense to the exporting houses.

RESULT OF THE COMPANY'S EFFORTS.

In 1904 Italian exports carried by the Venetian Steamship Navigation Company amounted to 8,767 tons, in 1909 to 15,658 tons, an increase of 78 per cent; the imports during the same period were 15,569 and 30,452 tons, respectively, an increase of 95 per cent.

The exports were made up of colors for paints, arms and ammunition, buttons, hemp rope, coal, paper, cement, string, cotton goods, food products, matches, silk and woolen goods, carriages, autos, bicycles, wood, marble, furniture, oil, petroleum, combs, perfumery, soap, chemicals, iron ware, glass products, wines and spirits, mineral waters, sulphur, and asphalt; and they were shipped to Malta and other ports of the Mediterranean, ports of the Red Sea, Egypt, Massowa, eastern Africa, ports on the Persian Gulf, Bombay, Calcutta, and the extreme Orient.

The imports were composed chiefly of hemp, cotton, jute, teak wood, skins and hides, saltpeter, tamarinds, cocoa oil, cinnamon, pepper, and tea.

ITALIAN VERSUS AUSTRIAN LINES.

That Venice has profited by these increased means of communication with the East can not be challenged. By making a rate on hemp from Calcutta to this port of $1 a ton less than the rate quoted to Trieste, Hamburg, and London, and by giving special terms on skins and hides, Venice has become an important center for these products and to-day ranks in Italy next to Genoa in commercial importance. It is to be noted that the Austrian flag still carries a larger tonnage to Venice than her Italian competitors, and notice has been given by the Austrian Lloyd that during this month (February) a new fast service will be installed between Trieste and Alexandria, touching at Venice. To meet this and all other conflicting interests it is thought that a bill has been framed in the Italian Parliament to grant such assistance as is necessary to enable Italian exporters to reach out and secure new fields through Italian ships for the manufactures and agricultural products of the country.

EGYPT.

OFFICIAL STATISTICS FOR NINE MONTHS OF LAST YEAR.

Consul-General Lewis M. Iddings, of Cairo, forwards the following summary derived from statistics recently published by the Egyptian Government:

For the first nine months of 1909, the total cargo landed at Alexandria showed a decrease, as compared with the corresponding period of 1908, having been 1,889,414 tons as against 2,088,439 tons. The total shipments were higher, 701,444 tons against 671,354 for 1908.

Passengers to the number of 56,566 landed at Alexandria during July, August, and September, 1909, while 70,463 departed. The exodus of nearly 15,000 over and above arrivals affected the foreign population, and is attributed to the continued effect of the last commercial crisis. The tourists arriving balance those departing, hence do not influence the final figures. During this quarter the total net registered tonnage of vessels arriving at Alexandria was 849,518 as compared with 885,399 for the same quarter of 1908.

In cargo landed at Alexandria for the first nine months of 1909, the United Kingdom was first, with 1,218,229 tons; Greece, 120,031; Russia, 100,180; Germany, 95,945; and Austria-Hungary, 93,068. The destination by countries, of cargo shipped, was as follows: United Kingdom, 428,035 tons; Austria-Hungary, 67,648; Germany, 54,154; and Greece, 43,995; with other countries showing lesser amounts.

SOUTH AFRICA.

IMPROVED TRADE CONDITIONS DURING THE PAST YEAR.

The following statistics, as given in a preliminary statement issued from the South African Customs Statistical Bureau, are furnished by Consul-General Julius G. Lay, of Cape Town:

The foreign trade of British South Africa in 1909 was as follows: Imports, not including specie, $137,895,737, an increase, as compared with 1908, of $14,953,635; exports, $245,916,056, an increase, as compared with 1908, of $25,903,844.

Of the total imports, 58.2 per cent was from the United Kingdom and 12.3 per cent from British possessions, an increase in the first of 2 per cent, but a decrease in the possessions of 1.7 per cent, as compared with the preceding year. The imports from foreign countries in 1909 amounted to 29.5 per cent against 29.8 per cent in 1908, showing a very slight decline.

While the percentage of imports from the United States is not given in the yearly statement, the value of such imports for nine months of the year was $7,589,092, a decrease of $64,063 from the same period in 1908, notwithstanding the increase in the general imports, and it is not likely that this unsatisfactory position has been changed during the last three months, but to what causes this may be ascribed will not appear until the detailed figures are published.

WEST AFRICA.

GOLD, RUBBER, CACAO, PALM OIL, AND COTTON PRODUCTION.

Consul W. J. Yerby, of Sierra Leone, furnishes the following information concerning the trade and productive conditions in the Gold Coast Colony, west Africa:

The principal products of the Gold Coast Colony are gold, rubber, cacao, palm oil, palm kernels, cotton, corn, and mahogany. The principal imports are similar to those of other west African colonies: Cotton goods, haberdashery, provisions, salt pork and beef, lumber, kerosene, corrugated-iron roofing, tools, iron pots, tobacco, spirits, and mining machinery. The only railway working in the colony runs 168 miles, from Secondi to Coomassie. There is under construction a 40-mile railway from Accra to Mangoase, running near the eastern border of the colony, to be ready for operation by July, 1910.

The west African gold returns show for the Gold Coast Colony a total production of 224,524 ounces for the first nine months of 1908, valued at $4,355,109, and the Ashantee Rivers and Concessions an output valued at $102,408 for the year 1908. It is claimed that—

In the course of time dredging for gold in west Africa will be a commercial success, but in order to achieve this a sufficient number of dredges must be employed. The expenses, when spread over a few dredges, are too high and

give this part of the industry no real chance of asserting itself. It may be that the ideal type of dredge, to do full justice to west Africa's rivers, has yet to be designed.

Within the past 18 years the natives have planted over 100,000 acres of cacao trees with primitive agricultural implements, creating an industry which resulted in the exportation of 28,545,910 pounds of cacao beans in 1908, valued at $2,631,094. The wealthy natives, says the director of agriculture—

Let the plantations on contract for the first few years on easy terms, arranged on the understanding that the laborers get all the foodstuff they require from the farms, and when the cacao bears the laborers get a fixed proportion of the crop, in some cases, one-third. The production of cacao is almost entirely in the hands of the natives, and is grown mostly in the eastern province. During 1908 12,357 seedlings were distributed from the various agricultural stations.

It is claimed that the palm-oil products have had to yield to the production of cacao, yet palm oil shows an increased value of $48,975, while kernels show a decreased value of $116,764.

The quantity of rubber exported from the colony fell from 3,569,548 pounds in 1907 to 1,773,248 pounds in 1908.

A representative of the British Cotton Growing Association recently made a tour through the northern territories of the colony and he reports:

Cotton is grown in the districts passed through, but the varieties and staples were much mixed, which is to be expected on trade routes. The country around Tamale is thickly populated, and the whole countryside is under cultivation.

The journey included visits to Baboya, Tolon, Daboya, Kombunga, Soveluya, and Tamale, which places were also well populated and well farmed, cotton being grown everywhere for local use.

The Gold Coast government contemplates a water scheme to cost about $1,000,000, the entire expense to be borne by the colony, to furnish water for Accra, the dependence now being entirely upon tanks and seepy wells during the long dry seasons.

SIAM.

MUSICAL INSTRUMENTS AND STATIONERY.

According to statistics, United States stands fourth in the imports of musical instruments into Siam. Vice-Consul-General Carl C. Hansen, of Bangkok, says that the kind of instruments imported is not given by the customs, but it is understood that pianos, small organs, and gramophones, make up the bulk of these goods. There has been a gradual increase in the import for the last five years, the total value for the fiscal year 1904–5 being $18,764, while that for last year amounted to $60,947. The contribution of these imports by the leading countries for the fiscal year ended March 31, 1909, was as follows: United States, $5,027; United Kingdom, $13,104; Germany, $24,766; Singapore, $7,432; Hongkong, $4,475; all other countries, $6,143. The import duty is 3 per cent ad valorem.

Stationery, not including paper, was imported into Siam for the fiscal year 1909 to the value of $122,748, as against $108,189 for the preceding year. Vice-Consul-General Carl C. Hansen, of Bangkok, says that the share of the United States in these imports for the above period amounted to $2,646 and $1,374, respectively. The United Kingdom contributed the largest amount, namely, $49,292, and Ger-

many came next with $21,632, for the 12 months ended March 31, 1909. The average yearly value of these imports for the last five years has amounted to $107,654. The customs tariff is 3 per cent ad valorem.

CANADA.

STATISTICS OF IMPORTS AND EXPORTS FOR THE PAST YEAR.

Consul Frederick M. Ryder sends from Rimouski the following statistics showing the foreign trade of Canada during the past calendar year compared with the two previous years:

	1907.	1908.	1909.
IMPORTS FOR CONSUMPTION.			
Dutiable goods	$224,469,938	$172,996,561	$212,322,327
Free goods	141,325,622	109,321,675	134,194,785
Total imports (merchandise)	365,795,560	282,318,236	346,517,112
Coin and bullion	7,029,805	9,970,339	5,444,900
Total imports	372,825,365	292,288,575	351,962,012
Duty collected	59,624,119	47,669,276	57,458,316
EXPORTS.			
Domestic produce:			
Mines	38,437,655	36,840,044	38,669,008
Fisheries	13,480,400	14,435,023	14,863,343
Forests	45,285,118	38,504,738	46,716,480
Animal produce	55,589,386	53,019,843	53,040,391
Agricultural products	57,368,407	75,883,951	84,921,684
Manufactures	27,780,366	28,892,297	30,807,548
Miscellaneous	74,225	54,913	118,756
Total domestic	238,015,557	247,630,809	269,137,210
Foreign produce	16,020,927	17,514,996	19,547,788
Total exports (merchandise)	254,036,484	265,145,805	288,684,998
Coin and bullion	19,288,930	4,858,901	2,277,447
Total exports	273,325,414	270,004,706	290,962,445
Aggregate trade	646,150,779	562,293,281	642,924,457
IMPORTS BY COUNTRIES.			
United Kingdom—Dutiable	72,237,133	53,199,574	66,518,367
United Kingdom—Free	24,717,623	17,787,652	22,977,283
All other British	16,094,669	14,991,510	17,128,747
United States—Dutiable	116,159,883	88,629,889	109,989,863
United States—Free	106,222,710	87,000,050	97,450,617
All other foreign	37,393,347	30,679,900	37,897,135
Total imports	372,825,365	292,288,575	351,962,012
EXPORTS BY COUNTRIES.			
United Kingdom—Home produce	117,831,498	133,625,624	135,479,618
United Kingdom—Foreign produce	8,516,404	7,494,637	10,309,034
All other British	12,367,878	14,287,893	14,500,438
United States—Home produce	92,283,500	82,662,340	99,224,200
United States—Foreign produce	25,253,227	10,137,827	8,863,308
All other foreign	17,072,907	21,796,385	22,585,847
Total exports	273,325,414	270,004,706	290,962,445

TRINIDAD.

A GENERAL GOODS AGENCY SUGGESTED FOR THE ISLAND.

Consul Franklin D. Hale furnishes the following information concerning the trade of Trinidad and the means which should be taken to increase trade of the United States there:

The total imports of Trinidad during the fiscal year 1908-9 amounted to $13,037,931, of which $3,485,349, or over 25 per cent,

was from the United States. Of the total imports, the reexports amounted to $10,423,825, leaving for home consumption $2,614,106.

While, under present conditions, the imports from the United States should be considered satisfactory, with the aid of certain helpful advantages, such as location and transportation facilities, they can be greatly increased by proper trade agencies. Outside of trade journals and correspondence, the means required for enlarging American trade in Trinidad are commercial travelers to visit the island at regular and frequent intervals and the establishment of an American goods agency, from which an active man, representing a number of manufacturers and exporters, could personally or by instructed agents look after the trade of this and other islands and countries in the immediate vicinity, Trinidad being a large transshipment mart for goods to and from Latin America.

American commercial travelers who come to this island are on their West Indian and South American trips, which may take up their time for six months of each year, so that the trade here is not often drummed up. In the meantime the steady-calling foreign travelers secure trade which could be secured for the United States under like conditions.

In connection with the establishment of an American goods agency, I have been informed that some English parties are establishing themselves here, and one department of their business will be "An agency for English manufacturers." They will carry a small stock in some lines, from which orders can be quickly filled, and take orders, by samples, to be forwarded to England. It would seem that an American goods agency, by reason of the shorter transportation distance and ability to more quickly fill orders, should have great advantage over a European agency.

HONDURAS.

CONDITIONS IN THE SAN PEDRO SULA DISTRICT.

The following information concerning San Pedro Sula is furnished by Consular Agent J. M. Mitchell, jr., of that city:

San Pedro Sula, on the Honduras Railway, 38 miles from Puerto Cortez, is a distributing point for a large stretch of country. It is well situated, has a fine water supply, piped from the neighboring mountains, and good surface drainage. The municipality owns about 34,000 acres of land. Besides this, a large amount of land is held by individuals, by virtue of warranty deeds, many of the latter being American citizens, who are fast improving their properties. There is no direct tax on land nor on the products thereof exported, except on rubber.

The principal products of these lands are bananas, rubber, and grass, viz, 44,000 acres under bananas and 17,000 acres of grass. Rubber is collected from the castilloa elastica growing wild in the forests, but rapidly spreading through the plantations, the seed being conveyed by birds and water. Uncultivated land is held by the municipality at about $10 per manzana (1.7 acres), while land cultivated, under bananas, is valued at from $60 to $120 per manzana.

A resident, foreign or native, is entitled to 85 acres of land, but practically all municipal land is held by individuals who have usufruct rights that are transferable. Schools, public and private, and

courts of law, exist sufficient for the population. The electoral census gives the number of voters as 1,689; only about 30 per cent of those entitled to vote, although failure to vote subjects the delinquents to fine.

CHILE.

DEVELOPMENT OF FOREIGN TRADE DURING THE LAST DECADE.

In submitting the following information concerning present conditions in Chile, Consul Alfred A. Winslow, of Valparaiso, reports that the outlook for American trade is brighter than at any time in recent years:

The Government is making many public improvements, such as railways, wagon roads, harbor works, etc., that are opening up much valuable mineral and agricultural lands, and American interests should enter more fully into this field of operations and aid in the work, to the great advantage of all concerned. There is a large field here for capital and labor.

During the past decade the foreign commerce of Chile has made great gains, and the outlook for the next decade looks even brighter. In 1899 the imports amounted to $39,334,225, of which $11,665,035 were entered free of duty, while in 1908 the imports amounted to $97,202,960, of which $48,188,938 were entered free. Machinery, fuel, tools, and materials are entered free of duty to encourage the development of the country. In 1908 the percentage of imports from the United Kingdom, Germany, and the United States was 31, 28, and 9½, respectively.

The more important factors contributing to the success of British and German interests in Chile are large investments of capital, good steamship facilities, and personal work in the field.

COAL, MACHINERY AND TOOLS, AND PETROLEUM.

A large proportion of the increase in imports during the decade under review was in certain articles, the imports of which in 1899 were as follows: Coal, $4,561,040; machinery and tools, $2,036,700; crude petroleum, nil; while the imports in 1908 were: Coal, $11,731,100; machinery and tools, $19,437,615; crude petroleum, $2,388,560; making the increase in these articles $26,959,535.

The share of the United States in the imports of the foregoing articles in 1908 was as follows: Coal, almost nil, sending now and then a few thousand tons; crude petroleum, about 24 per cent of the whole imports, while in machinery and tools the percentage of the United States will be seen in the following table, showing the imports for the United States, the United Kingdom, and Germany:

Year.	Imported from—		
	United States.	United Kingdom.	Germany.
1901	$924,545	$1,034,410	$1,311,445
1906	2,229,058	6,653,220	4,549,725
1907	3,101,770	7,351,100	5,466,970
1908	2,802,085	6,014,470	9,068,790

There seems to be no reason for the condition shown in the foregoing table, other than that American interests have not been as ably

represented in this country as have the German and British interests. American goods stand well in Chile, and have a good future if the energy and skill devoted to their sale in the United States are transmitted to this Republic.

OUTLOOK FOR AMERICAN TRADE.

American interests were never in better position to get an increased proportion of Chilean business than at present, if they continue to push for it as they have been doing during the past year. More and better salesmen are in the field at present than ever before, and nearly all make good reports. Personal work is telling. It is encouraging to note that American interests are making good use of the advice and information so freely given by their representatives in Central and South America during the past two or three years. If this is continued in this country, it will tell in the trade from the United States at the end of 1910. One salesman reported to this consulate that during the first four weeks he spent in Chile he took orders for more goods than were imported in his lines from the United States during 1908, and at that time he had covered less than a half of the country. This is an example of what can be done along many lines if the field be well covered by an experienced man.

Better banking and shipping facilities would do much to aid in capturing the trade of this part of the West Coast of South America. These matters should have the serious attention of manufacturers and exporters, for they are vital to their interests.

URUGUAY.

IMPORTS AND EXPORTS FOR LAST YEAR.

Consul Frederic W. Goding, of Montevideo, furnishes the following advance statistics showing the total value of the imports and exports of Uruguay for the last three years:

	1907.	1908.	1909.
Imports	$38,748,919	$37,419,140	$38,420,094
Exports	36,099,083	41,666,443	47,346,553
Total	74,843,002	79,085,583	85,766,647

SHIPS AND SHIPPING.

OCEAN TRANSPORTATION.

CANADA.

LINE SUBSIDIZED TO AUSTRALASIA VIA SOUTH AFRICA.

Consul-General John G. Foster reports from Ottawa that the Canadian Department of Trade and Commerce has entered into a contract with the New Zealand Steamship Company to inaugurate a monthly service on the Atlantic between Canada, Australia, and New Zealand, by way of the Cape of Good Hope. The plan is as follows:

The boats will sail from Montreal in summer and from Halifax and St. John in winter. The subsidy to be paid entirely by the Canadian government is $120,000 per annum; that is, $10,000 per month for one voyage each month. The ships are required to have a capacity of not less than 7,500 tons and to carry an average cargo of at least 5,000 tons per month, or a total of 60,000 tons per annum. A deduction of $2 per ton is to be made for any shortage under the 60,000 tons. The ships are required to call at the principal ports in Australia and New Zealand. They are also required to provide cold storage, and freight rates must not exceed those from New York City or other Atlantic ports.

The contract is made solely for export trade, the ships being allowed to return by whatever route is deemed desirable. Presumably, they will return by way of the Suez Canal, carrying freight to Mediterranean ports and to Great Britain. They will thus be able to secure return cargoes.

The contract has been entered into on representations to the government by several deputations pointing out that the bulk of Canada's exports to Australia have to go by way of New York, and, it is claimed, are there subject to noncompetitive rates.

NEW LINE TO CIRCLE THE GLOBE.

A Montreal daily makes announcement of the new direct service between Canadian Atlantic ports and Australia and New Zealand. The New Zealand Steamship Company will put on two vessels, one sailing on May 15, the second on June 15, from Montreal, and make a complete circuit of the globe.

MEXICO.

WEEKLY SERVICE FROM CALIFORNIA PORTS TO ENSENADA.

According to Consul George B. Schmucker, the Meteor Boat Company of Los Angeles, Cal., announces the establishment on March 1 of

a new weekly schedule for the gas steamer San Diego between San Pedro and San Diego and Ensenada, Lower California. Through freight from San Francisco will be transferred at San Pedro from the North Pacific Steamship line. Freight rates to Ensenada per ton will be $5.50 from San Francisco, $4 from San Pedro, and $3 from San Diego, not including $1.50 per ton lighterage at Ensenada.

AUSTRIA-HUNGARY.

RAILROAD COMPANY PLANS STEAMER LINE TO AUSTRIA.

Consul-General Charles Denby, of Vienna, reports the visit to the Austrian capital of G. M. Bosworth, vice-president of the Canadian Pacific Railway, who announced that his company projects the establishment of a line of steamers to Trieste. Mr. Denby comments: It is difficult to see what opening for ordinary freight or passenger traffic there may be for steamers between Austria and Canada. A possible explanation of such a service, however, would be a desire to secure agricultural emigrants from Austria-Hungary for the Canadian farming land of the West.

Montreal papers announce the return of Mr. Bosworth to Canada. He stated in an interview:

> Negotiations will continue from here, and it is by no means impossible that a direct service may be established between Montreal and Trieste during the coming season.

ENGLAND.

ADDITIONAL STEAMSHIPS FOR LIVERPOOL-BUENOS AIRES TRADE.

Consul Horace Lee Washington reports as follows on an important shipping enterprise of the Pacific Steam Navigation Company of Liverpool, which has a capital of $7,290,000:

The new plan provides for the issuing of $3,645,000 debentures for constructing three or four new passenger steamers designed specially for the Liverpool-Buenos Aires trade with greater speed than the line's present five steamers. These additions have been decided upon to meet the expected increase of traffic from the opening of the Trans-Andean Railway, by which the journey from Buenos Aires to Valparaiso will be cut to about 36 hours. It is expected that not only will the travel for Chile be served by this connecting railway but that to Peru also.

NEW STEAMERS FOR THE LIVERPOOL-RIVER AMAZON TRADE.

According to Consul Horace Lee Washington it has been announced that the Booth Line has placed an order for a new steamer for its trade between Liverpool and the river Amazon. The vessel is to be a twin-screw passenger and cargo steamer of about 10,000 tons displacement and 400 feet long. It will have accommodation for 200 first-class and 460 second-class passengers. In addition to this vessel, the Booth Line has also placed orders for four new cargo steamers of large size for the same trade.

HARBOR IMPROVEMENTS.

AUSTRALIA.

NEW WHARFAGE AT OUTER HARBOR OF PORT ADELAIDE.

Consul John F. Jewell, of Melbourne, says that considerable additions to the loading facilities are contemplated at Port Adelaide:

The outer harbor at Port Adelaide has been found convenient not only for the large mail steamers, but for the great ocean freighters which can not fully load at the inner wharves because of the difficulties they then encounter in navigating the river. The accommodations are ample for the loading of two of the largest steamers at a time, the wharfage being 1,500 feet, yet it is proposed to extend this 700 feet. Included in the scheme is also the construction of a revetment mound to the northwest of the wharf, which will insure smooth water and complete safety in any kind of weather to vessels lying in the basin behind the breakwater. A graving dock is also contemplated. The proposed expenditures will reach about $1,000,000.

CANADA.

INCREASED NOVA SCOTIA FACILITIES FOR SHIPPING IRON ORE.

Consul Alfred J. Fleming, of Yarmouth, Nova Scotia, describes briefly the improvements in progress at the harbor of Port Wade, whence iron ore from the recently opened mines at Torbrook is shipped:

Expenditures estimated at $120,000 are to be made by the Canadian Iron Corporation and other interests on the large iron pier at Port Wade, Nova Scotia, in order to facilitate the handling of iron ore from the mines now being developed in that region. The pier is to be widened, a wing added, a tower 50 feet high to hold 300 tons of ore erected on the outer end of the pier, and at its head loading pockets with a capacity of 2,000 tons, these to be connected with the tower by endless-chain carrying buckets. Excavations are in progress for the installation of heavy machinery at the head of the wharf, which will be capable of loading 1,000 tons of ore per hour. An elevated track will enable cars of ore to reach a position above the loading pockets and discharge ore rapidly. Protective walls are also to be built. The ore already taken out has been found to be of excellent quality. The quantity is also large, and it is expected that, when the plans under way have been carried out, two and very possibly three trainloads of ore will be delivered daily from Torbrook.

ARGENTINA.

DREDGING WORK—SHALLOW DRAFT VESSELS FROM GERMANY.

In further reference to waterway improvements in Argentina, Consul-General R. M. Bartleman writes from Buenos Aires:

The report submitted by Engineer Henry to the Ministry of Public Works regarding the recent tour of inspection he made on the Central Bermejo or Teuco River has just been published. It states that so many of the obstacles to navigation on this river have been

removed that it can now be navigated by the shallow draft steamers which are being built in Germany for this purpose, and with which it is hoped to shortly establish direct communications between the rapidly growing settlements on the upper Bermejo in the Province of Salta and the river Parana. The Ministry proposes to increase its fleet of scows and boats now engaged in improving the river by half, all communications regarding which should be addressed to the Dirección General de Obras Públicas, Hidraulicas, Casa de Gobierno, Buenos Aires, Argentina.

The territories of the Chaco and Formosa, through which this river flows, are rapidly developing in population and trade, largely through the growth of the quebracho industry, and it is expected that these improvements in navigation will greatly hasten their increasing importance.

WEST AFRICA.

FACILITIES FOR LANDING CARGO—WORK IN PROGRESS.

The principal harbors of West African colonies are briefly described by Consul W. J. Yerby, of Sierra Leone, who writes:

At Lagos ocean-going steamers anchor quite six miles from the wharves, while only during good weather and at high tide steamers not above 4,000 tons and drawing not over 14 feet of water enter the lagoon on which the town is located. Ordinarily surfboats transfer cargo to lighters of 1,500 to 2,000 tonnage. The Southern Nigerian government has three dredges constantly at work in this harbor. The largest of these is 299 by 42½ feet and of 4,000 tons burden. It removes 2,000 tons of sand per day, pumping it into the lowlands about the city. The officials hope by 1912 to have the entrance to the lagoon deepened sufficiently to admit steamers up to 8,000 tonnage, and within ten years to have one of the best harbors in the world.

Grand Popo, the principal seaport of Dahomey, is unprotected. Vessels anchor quite three-fourths of a mile from the beach and discharge cargo by surfboats. Goods not well packed in oil paper often get badly damaged by water.

Lome, the capital and chief seaport of Togo, German West Africa, has a commodious steel pier over 1,200 feet long, with a double-track, narrow-gage railway running the entire length. Except during rough weather, cargo may be discharged with ease, there being two large derrick cranes on rolling bridges, and two small derrick cranes.

At Accra, Gold Coast, much difficulty is experienced because of the silting up of the sheltered area of the harbor while the breakwater was under construction, so that at low tide there is no water within the breakwater. The authorities intend to pump this out and extend the breakwater 250 feet, making it 1,250 feet in length, completing the work during 1910.

Secondi is to have a breakwater, the work to be begun, it is expected, in September, 1910, as soon as the plant now in use at Accra becomes available. Both Secondi and Axim are open to the sea, and the surf is heavy except in very favorable weather.

Cape Palmas, Sino, and Monrovia, in Liberia, are roadsteads which could be made excellent harbors by the expenditure of moderate sums to supplement natural features. At Cape Palmas, however, there is, just west of the point, a hidden reef of rocks on which

vessels are sometimes caught. There are also reefs from one-half to three-quarters of a mile out directly west and northwest of an old iron steamer hull lying on the beach. At Sino the wreckage of a steamer lies fairly close in, neither this nor the reefs at Cape Palmas being marked by buoys. It is believed that if a sum equal to that spent on the Gold Coast harbors were expended on the Liberian ports the latter would be superior to those of the Gold Coast.

Freetown, Sierra Leone, is the best natural harbor on the coast. The largest West African steamers enter with safety by following the charts, which show the reefs clearly. There is good natural protection. Large lighters discharge the cargo on commodious piers, where there are spacious warehouses recently constructed.

Konakry, French Guinea, has a good harbor with a pier 1,000 feet long constructed of timber and stone. All of the large West African steamers enter, and those up to 4,000 tons discharge and receive cargo at the pier. Islands just seaward from the harbor lend protection.

STRAITS SETTLEMENTS.

NEW BRITISH DOCKS THE RENDEZVOUS OF EMPIRE FLEETS.

Consul-General James T. DuBois calls attention to the continued growth in importance of Singapore as the docking and shipping center of that part of the world. He says:

Singapore, it is said, will be the headquarters of the Western Division of the Eastern Fleet. Already Blakan Mati Island, just south of Singapore, is the embryo of what may become an important naval depot, and the newly arranged Kepple Harbor machine shops will eventually be equipped with everything necessary in dockyard repairs. The new docks now under construction by the Tanjong Pagar Dock Board will have, when completed, one of the largest dry docks in the world, capable of accommodating the biggest ship afloat or any that may be built for many years. It is of the type at Gibraltar and Malta, but larger and better than either. Its length is 860 feet; entrance, 100 feet wide, and depth of water on sill at high tide, 35 feet. As the largest war vessel launched this year, the Neptune with 20,000 tons, is only 480 feet long, with an 86-foot beam, the new dock, on the blocks, will have 380 feet to spare, with a clearance of 14 feet at the dock entrance. As the draft of the Vanguard, of 19,250 tons, is only 27 feet, it is not likely that the Neptune will exceed 28 feet, so there would be 7 feet clear under keel at the dock sill.

These facilities for docking large ships will mean much for Singapore in the near future, for the increasing status of Singapore as a naval port will tend to add to the value and importance of the port as a place of call for the mercantile marine. It will be a natural base for the coming Australian fleet, and as a port of docking and fitting it will naturally be used by the proposed Indian fleet. The proposal to obtain 1 cruiser of the Indomitable type, 3 second-class cruisers of the Bristol type, 6 river gunboats, and 3 submarines, to constitute the Australian unit, together with similar Indian and China units, would constitute a minimum Eastern Fleet of 39 ships, and Singapore would become the natural naval base, certainly the most important one. Singapore is the gateway for all ships steaming from the

Occident to the Orient and vice versa, and it is believed that the Australian, Indian, and China squadrons may in the future constitute a great Eastern Fleet with headquarters at Singapore.

The work of building the great docks is proceeding with energy. Over $20,000,000 will be expended. Singapore already ranks as the eighth greatest port in the world, and the new construction will give it as fine docking facilities as any port in the East.

AMERICAN SHIPS AT SINGAPORE.

AMERICAN FLAG MISSING FROM MERCHANT MARINE AT ASIATIC PORT.

Consul-General Du Bois also submits the following in regard to the rarity of American merchant vessels at the port of Singapore, whence over $13,000,000 worth of goods are annually shipped to the United States:

Four years ago the ship Acme came here in ballast for repairs. Three years ago the ship Ivy came here with salt and departed with lumber. Two years ago the foreign-built steamer Hanamet arrived, flying the American flag. Last year the barkentine Jos. L. Eviston came in ballast and was sold. This is the record of American merchant ships arriving at Singapore during the past four years, and Singapore is the gateway between the Occident and Orient, and is the eighth greatest port in the world. Fifty years ago the famous clipper and other American craft carried our flag to every sea and found business at every port. They have completely disappeared from these waters.

In 1856 there were 1,047 ships, including native vessels, entered at this port. Of these 667 were British, 182 Dutch, a very few small German traders, and 45 good-sized American merchantmen. To-day the harbor of Singapore is crowded with ships and steamers from all countries of the earth except the United States. The total number of vessels entered here in 1908 was 29,234, with a tonnage of 15,507,102. Of this number one small craft of 662 tons flying the Stars and Stripes came in with ballast and was sold to the highest bidder.

BRITISH WATERWAY BOARD.

PLANS FOR UNIFICATION AND CONTROL OF CANALS AND RIVERS.

In the fourth and final report of the commission appointed to inquire into the canals and inland navigation of the United Kingdom it is recommended that a Central Waterway Board be appointed for Great Britain. Other recommendations of the commission, according to a newspaper clipping forwarded by Consul Frederick I. Bright, of Huddersfield, were that the unification of the waterways and the transfer of their administration to the Waterway Board should be effected without delay; that the board should review the whole situation with especial regard to finance and benefit to trade and public interest, the extent of local assistance, the prospects of traffic, and competition with railways; and that the acquisition of any British waterways of importance now in the hands of railway companies should be included among the earlier undertakings. The Caledonian and Crinan canals, and the projects for their improvement, were also among the interests to be confided to the care of the new board.

TRAFFIC ON THE ELBE.

EXTENSIVE AUSTRIAN USE OF THE RIVER VIA GERMANY.

The importance of the River Elbe in handling traffic for middle Europe is shown by statistics forwarded by Consul Thomas H. Norton, of Chemnitz:

Although the 1908 season was restricted by unusually low water, the tonnage of both loaded and empty barges passing the German line upstream into Austria was 3,803,000, and downstream from Austria 4,028,000. The freight upstream into Bohemia is chiefly pig iron and ores, fertilizers, oil cake and oils, cotton, and lumber. Downstream, lignite coal constituted 64 per cent of the tonnage in 1908, followed by sugar, lumber, grain, stone, petroleum, and fruit.

The question of exacting tolls on fluvial traffic has been agitated actively in Germany for some years. Prussian statesmen advocate the measure very strongly. Thus far the Saxon Government has opposed firmly all attempts to place a burden upon river transportation.

TRANSITORY CUSTOMS DUTIES.

PRUSSIA PROPOSES A LEVY ON GOODS WITHIN HER BORDERS.

Vice-Consul Edward T. Heyn, of Reichenberg, describes the importance to Austria of the Elbe River, on which floats a heavy traffic to and from ports on the North Sea:

The proposition of the Prussian Government to levy a transit duty on goods passing through her rivers from other States is of great interest to Austria-Hungary, as the river Elbe starts in Bohemia and flows through this consular district for a distance of 18 miles. Until 1903 the traffic on the Elbe was in the hands of five independent companies, but in that year all these competing lines formed one combination. All chain tugs, most freighters and flatboats, running up and down the river are owned by this company.

The traffic passing the river is an enormous one, and perhaps the most extensive in Europe. The company controlling the boats on the Elbe employs 7,000 people, and more than 1,200 freighters and flatboats are in use. The boats easily glide down the river, but when going up the stream they are conveyed by chain tugs. More than a hundred of these tugs of various sizes and of 1,200 horsepower are engaged in this work. The company in 1909 carried 3,962,500 tons up and 2,203,760 down the river. It has been estimated that 616,626 railroad cars would be needed to carry the same traffic.

The boats traveling on the Elbe run from Hamburg to Dresden, thence to Laube in this district, and near Melnik in Bohemia enter the Moldau, from which point they are conveyed to Prague. Freight rates on the river boats are much lower than on the railroads. A Saxon firm estimated that it saves annually $75,000 by shipping on the Elbe instead of on the railroad. Every week two special steamers bring loads of the famous Pilsner beer from Bohemia to Germany. Some of it goes to America. Also during the season flatboats filled with luscious fruit pass over the same route.

FREE PORT ADVANTAGES.

SUCCESS OF HAMBURG—PRIVILEGES IN UNITED STATES.

Consul-General Robert P. Skinner points out how the great commercial achievements of Hamburg might be emulated in the United States by establishing free ports:

The Free Port of Hamburg is merely a very extensive bonded warehouse belonging to the municipality, and, under the terms of the treaty by which the State of Hamburg entered the German customs union, excluded from all the effects of that union. The American conception of a bonded warehouse has always been an extremely restricted one, whereas in Hamburg the Free Port is a large area, within which the greatest steamships in the world find anchorage and wharfage, and within which goods from all parts of the world are received, stored, classified, repacked, manufactured in whole or in part, and reexported, all without the payment of any duty whatever and with an entire avoidance of any formalities. Naturally, when goods in the Free Port are introduced into the customs union they then become subject to the ordinary tariff regulations. There are, perhaps, 70 large manufacturing concerns operating within the Hamburg Free Port, enjoying all the advantages of free imported raw materials, to which they can add such German materials as they like, and exporting the finished product from their factory doors.

Within this free zone millions of dollars' worth of American goods are in storage at all times, shipments being made from these accumulated stocks to all parts of the world.

It is sometimes asked why there is no similar institution in the United States, and it is frequently supposed that the American customs system prevents the organization of anything of this character. Whether or not a free port on the Great Lakes or on the seaboard is necessary in a country already so rich in raw materials, is an economic question for consideration; but, at least, if a free port does not exist the fact should not be laid at the doors of legislation, as section 23 of the new United States tariff act plainly provides that all articles manufactured in whole or in part of imported materials and intended for export without being charged for duty shall, in order to be so manufactured and exported, "be made and manufactured in bonded warehouses similar to those known and designated in the Treasury Regulations as bonded warehouses, class 6."

I know of nothing in our legislative system to prevent private, municipal, or state energy from setting aside an area as large as it can afford to provide, and equipping it with every facility known to commerce for the handling of ships and the manufacture and manipulation of merchandise; if this has not been done, it is possibly because the economic necessity for such facilities does not exist, or because capital has been indifferent to the opportunity. In any case the subject is one worthy of careful study in these times when special efforts are being put forth to increase American foreign trade.

MOTOR INDUSTRY.

AUTOMOBILES AND BOATS.

PORTO RICO.

A GOOD MARKET FOR AMERICAN AUTOMOBILES.

Special Agent John M. Turner furnishes the following information concerning Porto Rico as a market for automobiles:

The demand for automobiles in Porto Rico has been in excess of the supply. Agents have told me they had to wait sometimes as long as three or four months for their orders to be filled. There are more than 1,000 kilometers of splendid roads on the island, and an appropriation has just been made by the legislature to extend many uncompleted roads and join ends of these with completed ones, thus extending the mileage.

The incident is cited of a large American manufacturer of automobiles, finding himself a little run down and needing rest, taking a steamer for Porto Rico and upon landing arranging with a local liveryman for a coach to take him around the island. After he had gone a few miles and meeting a half dozen automobiles, he had his coachman turn back, paid him to be released from his contract and arranged with a garage for a machine to take him on his journey. He said he had no idea there were such roads or such possibilities of trade, and while here he arranged an agency and actually disposed of half a dozen cars for shipment. In all there are close to 300 automobiles on the island, well divided among the different makes. This year will see a marked increase in the number of machines bought, as the island is very prosperous, and there will be large purchases of automobiles when the money is distributed.

CLIMATIC CONDITIONS.

This island is hilly. The roads were originally built for military and heavy traffic, with little regard for easy grades. It is not unusual to find 10 per cent grades, and there is one very stiff climb up a 12 per cent grade. Some maker of automobiles could easily capture the trade of these West India Islands if a machine were made to fit existing conditions. There is no frost here, the heat is uniform, and at times in the sun a machine will run at a continuous temperature of 125° F. It may be that a larger radiating surface for this climate would be an improvement. The climate is hard on rubber, leather, and polished surfaces, so that if improvements can be made in any or all of these strides will be made toward capturing the trade. Varnish does not last. A fine-looking automobile will look like a second-hand one after 30 days' use. All exposed iron parts rust in a short time, brass tarnishes quickly, and nickel shows rust streaks after short service. Tops of leather are almost useless for automobiles, the rubber cloth ones do not last any time, and the only kind

that seem to wear at all are those made of canvas, treated to make it waterproof. Some varnish or other polishing fluid should be used that would be more permanent. Leather molds quickly and needs constant cleaning. Other material that would not be attractive to moths, such as firm cotton drill, etc., could be used for covering.

Three different agents have recently gone to New York to arrange for agencies for automobiles, and there are openings for others, so that manufacturers need not think the field is covered. The Porto Rican is a good spender; he is open to argument on machines, is not adverse to new things, and the trade is worth cultivating. Cars that will stand up under the work required will attract many buyers. Anything from a $250 runabout to a $5,000 6-cylinder can be sold in Porto Rico; agents with means can be found here, and buyers are open for demonstrations.

CANADA.

GREAT DEMAND FOR HIGH-GRADE MACHINES.

From present reports Vice-Consul-General James J. McBride, of Winnipeg, says this will be an exceptional year in the automobile trade in western Canada. He writes:

Orders are reported for 925 machines, valued at about $1,640,000, to be delivered before June, and the dealers state that the difficulty will be to secure enough machines to supply the demand. The western Canadian market wants a good grade of machine. While the average price of cars will be about $2,000, there is a good demand for the $3,000 machine. The 4-cylinder engine is in greater demand than ever before. Its adaptability to most conditions and its usual reliability commend it. Another feature of this year's trade is the fully equipped car. A couple of years ago the purchaser of an automobile paid the price for it and then bought his equipment extra. Now the machines are sold fully equipped with lamps, horns, etc.

About 60 per cent of the machines owned in Winnipeg have operated through the entire winter. This is even true of the water-cooled cars. This is the first year that the automobile business has been an active industry for the entire twelve months. The winter roads, when the snow is packed, are almost as good for driving as asphalt; and, when the occupants are careful, there is no suffering from the weather.

Not only in Winnipeg is the outlook promising. Throughout the entire west orders for automobiles are reported in far greater numbers than ever before. The farmers are using gasoline farming machinery, and are beginning to realize the value of the automobile. Last year the automobile business amounted to about $1,000,000, while the present estimates are that about double that amount will be invested in machines this year.

ENGLAND.

MOTOR-BOAT FACILITIES AND CONDITIONS IN LIVERPOOL.

Consul Horace Lee Washington furnishes the following information concerning motor boats in the Liverpool district:

While in certain sections, such as Lakes Windermere, Derwentwater, Ullswater, and Coniston, the river Dee and estuary, and the

North Wales coast, with the various harbors, bays, and rivers, including the Menai Straits, motor boats are used, their employment is neither general, nor does it promise to become so, since the population is not sufficiently great at any one of the places named, which are more or less favorable for such boating, to warrant the use of many boats. The Mersey, on which Liverpool is situated, is a very strong tidal river, and boats for use thereon would have to be built very strong.

It is estimated that 167 motor boats are owned in the district named, 27 of which are for towing small craft and barges. While there are three motor-boat clubs in this section, the collective membership totals only about 120.

It does not appear therefore that this neighborhood is a promising one for the exploitation of motor boats, although occasional sales might be made from headquarters established in a district where motor boating is either a popular pastime, or where such vessels are used for fishing, or for commercial purposes, more extensively than prevails here.

FRANCE.

GROWING USE IN BORDEAUX, ARCACHON, AND ST. JEAN DE LUZ.

The following information concerning motor boats and boating in southwestern France is furnished by Vice-Consul J. D. Wise, of Bordeaux:

Motor boating has made large strides in the waters of this part of France during the last few years. At Arcachon, a colony of enthusiastic water sportsmen is continually on the alert for improved types of motor boats and marine engines, and the large bay on which this well-known health resort is located is daily alive with pleasure motor boats. There are at present about 200 of these boats—racers, cruisers, and "canots" for family use—in Arcachon ranging from 4 to 24 horsepower. The yacht club of Arcachon has a membership of 306. While at present there are not many American motors in use here, there certainly is a large and promising field for their introduction.

An equally important field may be found in the fishing fleet of Arcachon, which has greatly been enlarged during the last two years by the fact that the motor-propelled craft has supplanted the sailboat in the sardine fishing, which has enabled the fishermen to make a quick run over the bar to the fishing grounds and return with an increased catch. The number of those motor-propelled fishing pinnaces is now estimated at from 150 to 175. This work is dangerous and crossing the bar is sometimes difficult, so that engines of great reliability—4 to 15 horsepower—are required. These motor pinnaces are much used by families as pleasure craft, to whom speed is of secondary importance to capacity and seaworthiness.

Most of the fishing fleet of St. Jean de Luz use steam for motor power; the town being situated on the open sea, this mode of propulsion is regarded as the most reliable. Any attempt to introduce American goods here should be directed toward the addresses herewith forwarded. A firm in Bordeaux, making a specialty of high-speed racers and which also deals in slower and more spacious boats, as well as in fishing boats, has installed American engines in a

few of its boats. [Information concerning the class of motor boats in use in the Bordeaux district, the addresses of boating clubs and motor-boat builders, together with illustrations of the types of motor boats used on the Garonne, forwarded by Vice-Consul Wise, are on file in the Bureau of Manufactures.]

MARSEILLES.

A GOOD MARKET FOR MOTOR BOATS AND CARS.

Consul-General A. Gaulin, in answer to an inquiry, reports that the Marseilles district of France, if properly exploited, offers a good market for American motor cars and motor boats:

American manufacturers should secure, at the start, the services of active salesmen, competent to demonstrate the merits of the goods handled by them and arrangements should also be made for the repair of these motors and boats whenever necessary.

A local dealer states that during the last two years about 20 motors of American origin were sold in Marseilles, but that several of these have been abandoned by their owners, because they could find no one familiar enough with their mechanism to repair them. Complaints have also been against one American make to the effect that the motor quickly rusts, and against another that it is difficult to start. Attention should, therefore, be given to these and similar details, which carry great weight with prospective customers.

Another Marseilles firm, agents of French and English makes, says that clients are unwilling to pay the price for good motors, and that the practice is spreading of using secondhand automobile motors for the boats. A local French make seems to be in greatest demand in this vicinity.

Motor boats are almost exclusively used for pleasure craft, but it might be possible to sell a certain number, on the installment plan, to the fishermen of Martigues and various other ports.

NORWAY.

A GOOD OPENING FOR AMERICAN MOTORS AND MOTOR BOATS.

Consul P. E. Taylor, of Stavanger, in answer to inquiries, furnishes the following report concerning the opening for American motors and motor boats in Norway and the best manner in which to secure the trade:

There seems to be an exceptional opportunity for the introduction of American motor boats and motors, and the opportunity is for both the light, fast boat and the heavier and more substantially built boat used for fishing. There is a yacht club in Stavanger with 180 members, which holds an annual motor-boat race here in early summer. Each year a larger number of motor boats are entering the races; last year 10 boats entered, and an American boat, the Leader, owned by Mr. Raymond Bjelland, secretary of the club, took first prize. This has given the American motor some very good advertising, and a number of inquiries have been made at this consulate by members of the club as to American motors.

As only a very few of those interested in trade speak or write English, catalogues, advertising, and all correspondence should be in the Norwegian language. As competition for trade is most keen

among Norwegian and other European manufacturers, a high standard of quality in boats and motors is required, and, as an absolute essential to trade, a three to six months' credit, a requirement which American manufacturers alone hesitate about granting.

Undoubtedly the greatest aid in exploiting American trade here would be a competent agent, speaking the language fluently, and fully aware of the business usages of the Norwegians, who deal more leisurely and with more patient courtesy than is considered necessary in business transactions in the United States. Such an agent would be able to learn quickly and intelligently every phase of the requirements of the market and the conditions which the foreign manufacturer must meet.

THE MARKET AND ITS REQUIREMENTS.

The chief market here is not for the light, fast, pleasure boat, although there is a good market for that style of boat also, but for the motor boats in use farther north on the west coast of Norway adapted especially for fishing.

The west coast of Norway is among the most ideal places in the world for the use of the pleasure motor boat. Its countless glassy fjords, running up into the mountains, and protected from the ocean by a continuous fringe of islands, afford the finest sailing and boating, amidst scenery unsurpassed in beauty. The Gulf Stream brings to this coast the balmy climate of the south, and western Norway from June to September is one of the chief meccas of the European tourist. The coming summer is a propitious one for a large increase in the number of motor boats used. The great cod fishing season, a little farther north, will also soon be at its height, and the cod fishing here, being so much nearer the coast than other cod fisheries, brings the motor boat into special demand for that purpose. At the cod fisheries, on the west coast alone, now among the largest in the world, there are about 5,000 fishing boats out together, in a comparatively small area of water, and the catch of cod between the first of February and the last of April exceeds 40,000,000, so that the field for both the pleasure motor boat and the fishing boat is a good one if American firms will but meet the requirements of the local market in the introduction and sale of their motor boats.

DENMARK.

LOW-PRICED AUTOMOBILES WILL PROVE THE BEST SELLERS.

The following information concerning the use of motor cars in Denmark is furnished by Consul-General Wallace C. Bond, of Copenhagen:

There were registered in Denmark on September 1, 1909, about 700 motor cars, of which 375 were in Copenhagen, including 138 auto cabs. There were also about 3,500 motor cycles in the country. Practically all the motor cars in Denmark have been imported from the United States, Germany, and the United Kingdom. There is but one automobile factory in Denmark. It produces delivery cars only and on a limited scale.

It is safe to say that, with few exceptions, all the first-class European and American manufacturers are represented here. The low-priced car is likely to prove the best seller here as the average income

in Denmark, especially among the middle class, is much lower than in the United States. A limited market could doubtless be found for some high-class cars of 50 to 80 horsepower, with more or less luxurious equipment.

Motor cars for delivery purposes are gradually replacing the horse-drawn wagon, and the demand will increase for some time. The manufacturer with the right car at the right price will undoubtedly do a profitable business here.

GERMANY.

CLASS OF MOTOR BOATS PREFERRED BY HAMBURG DEALERS.

Consul-General Robert P. Skinner furnishes the following information concerning motor boats at Hamburg and the best means for building up an American trade in Germany:

Hamburg dealers in motor boats evince strong objections to two-cycle engines, which are considered insufficiently solid to appeal to German buyers. They say that the two-cycle motors extensively manufactured in the United States are too high in speed and too lightly built for German boatmen or barge owners. The motor which German dealers prefer is of four-cycle construction, especially for small towboats and barges.

It is admitted that American boat motors are cheaper and better than the same type of machine manufactured in Germany, where speed is not sought for, and where buyers demand a solid and serviceable motor that will run in all weather, dependably though slowly. It is stated that spare parts for American motors are often required and can not be obtained under six weeks' time.

There is little motor pleasure boating in this vicinity for the reason that the Alster is closed to owners not provided with special permits, obtained with great difficulty, and on the Elbe the water surface is considered too rough and the course not particularly interesting. There are altogether only about seven pleasure motor boats now in Hamburg. A number of firms, however, own as many as three motor boats each for visiting ships in port. It is also becoming more and more general for sailing ships to install on board an auxiliary motor of 100 to 200 horsepower for use in harbor.

Undoubtedly Hamburg would be the best point in Germany at which to establish a central agency for selling boat motors in this country, all the large American firms transacting business with Germany being already established in this city.

SIAM.

PROMISING OUTLOOK FOR INCREASING TRADE IN MOTOR CARS.

Vice-Consul-General Carl C. Hansen, of Bangkok, reports as follows concerning the use of motor cars and bicycles in Siam:

The imports of motor cars into Siam in the fiscal year 1908–9 numbered 78, valued at $146,019, against 57, valued at $96,900 in 1907–8; those from the United States being three cars, at $2,113, against 10 cars, valued at $7,362. Of the total imports during the past year, 43 cars, valued at $73,707, were from the United Kingdom, and 15 cars, valued at $32,187, from Germany. In addition to the fore-

going, motor parts to the value of $27,880 were imported in 1908–9. With the present steady improvements in the roads an increased demand for motor cars is bound to come.

The imports of bicycles in 1908–9 numbered 468, valued at $15,420, including parts. Nearly all the imports were from the United Kingdom; none from the United States. The demand is for a comparatively cheap cycle; plain type and free wheel seem to be preferred. [The names of dealers in motor boats at the places mentioned in the foregoing reports may be secured from the Bureau of Manufactures.]

INDUSTRIAL MOTOR USES.

CANADA.

ADAPTATION TO FISHING BOATS AND TO FARMS.

Consul Frank Deedmeyer, Charlottetown, directs attention to the growing use of motors for fishing and agricultural purposes in Canada:

On land, on sea, and in the air the use of the gasoline motor is extending rapidly. Its great utility, combined with economy, in the fisheries and upon the farm, is now fully recognized in the maritime provinces of Canada. Here is a most promising field for American manufacturers. The race is to the swift. Those who would cultivate this rich opportunity must act at once. Fishermen, a conservative folk, were slow to equip their craft with gasoline motors. During the fishing season of 1909 about 15 per cent of the fishing boats and vessels were provided with this motor power. The boats and vessels so equipped had such palpable advantages over those using sail propulsion that the most conservative fisherman now realizes that he can no longer compete if he has to contend with the contrary winds, while his more progressive neighbor can bring his catch to shore speedily and surely.

The fishing fleets of Nova Scotia, New Brunswick, and Prince Edward Island, consist, according to official returns, of 26,315 boats and 1,082 vessels. Nova Scotia is credited with 16,121 of these craft, New Brunswick with 9,393, and Prince Edward Island with 1,883. Within the next few years this entire fleet will be supplied with gasoline motors.

The number of farmers of these three provinces, according to the last Dominion census, is 107,630, all of whom own the farms which they till, except 2,692, who are lessees. Agriculture, owing to the constantly rising prices of farm products, is remunerative. These farmers are generally well to do, progressive, employing agricultural implements and other labor-saving devices. The gasoline motor has just commenced to displace on the farm the windmill, animal power, and the steam engine, used in pumping water, thrashing and crushing grains, cutting wood, and for various other purposes. The superiority of the gasoline motor of American make is universally conceded. Canadian manufacturers of this article usually advertise their motors as being constructed upon the latest designs secured from the United States.

A number of American manufacturers maintain agencies in the maritime provinces. Circulars and catalogues do not appeal at all

to farmers and fishermen. Literature alone is to no purpose against competitors who have local warehouses, in charge of competent men, who instruct purchasers how to operate and care for the machine, with different sizes of motors, their accessories and duplicate parts always on hand and ready to be installed by skilled mechanics.

RUSSIA.

PETROLEUM-BURNING MOTORS FOR AGRICULTURAL PURPOSES.

Consul-General Robert P. Skinner, of Hamburg, in answer to an inquiry, furnishes the following information concerning the probable market in Russia for petroleum-burning motors for agricultural purposes:

There is little or no demand in Europe, outside of Russia, and, to a less extent, in the Balkan States, for large steam engines provided with petroleum-burning motors used for agricultural purposes. The size of the ordinary European farm and the comparative abundance of farm labor make it impracticable to plow by steam and carry on other farm work as is done in the United States.

In Russia, however, boundless areas are being brought under cultivation, the tracts being more often than not extremely large and the conditions such as to invite the presence of American manufacturers.

Hamburg importers of agricultural machinery who have looked over the catalogues of machinery of this class submitted, are of the opinion that there is something to be done in Russia with such devices, if manufacturers are prepared to establish their own branch houses on the ground and to await with patience results which can be expected only after years of work and sacrifices in effecting sales. In some cases it has taken as many as five years to carry on a simple study of the situation with a view to making sales, during which large stocks of goods have been maintained at heavy expense. Few manufacturers are prepared to wait so long a time for tangible returns, and yet it is the opinion of the Hamburg dealers already referred to that such as are willing to conduct a waiting campaign may look forward reasonably to the building up a satisfactory business in the long run.

AUSTRALIA.

AMERICAN TRACTION ENGINE POPULAR.

Consul Henry D. Baker, of Hobart, notes the first importation into Tasmania, and almost the first into the Australian Commonwealth, of an oil-driven traction engine. It has just been made by an American company which manufactures agricultural machinery. Considerable local interest has been aroused in the importation, and it has already been inspected by numerous farmers. It may be driven with gasoline or benzoline and used for all kinds of traction work, as well as cutting straw and thrashing. It is said to be much lighter than steam engines for road work, weighing only 4¾ tons, and in plowing it will cost only 61 cents per acre for fuel and will get over several acres in a day.

MOTOR FAIRS AND TESTS.

RUSSIA.

ADVICE FOR THOSE VISITING THE ST. PETERSBURG EXHIBIT.

With further reference to the St. Petersburg automobile exhibition May 28 to June 9, Consul Jacob Conner writes from the Russian capital:

Applications for floor space received after March 14 are charged 15 per cent extra. It is known that a goodly number of American machines will be represented. In anticipation of a larger number than usual of American tourists and others interested in the exhibit it is deemed worth while to furnish the following information as to travel, hotels, etc.:

A passport is absolutely necessary to enter and travel in this country and must be procured from the Department of State at Washington before going abroad. It will save trouble to have this passport viséed by a Russian consul at some port before reaching Russia. This passport will be taken up on arrival by the porter of the hotel or lodgings and returned a few days later. In order to leave the country it must be again submitted to the police for their authorization. If these formalities are attended to the traveler's liberties will not be interfered with. A knowledge of German or French will be especially helpful, but those who speak English only will have little difficulty in getting around. One can pick up Russian words in a few hours sufficient to give directions to the droshky men (cabbies), whose charges are very low when one knows how to bargain with them. The monetary unit is a ruble, worth 51½ cents, which is divided into 100 copeks. The principal hotels in this city are the Hotel d'Europe, $2 to $10 a day (European), Hotel de France, Hotel d'Angleterre, and Grand Hotel.

In view of the fact that several inquiries have been received as to cholera, it need only be stated that there have been no cases whatever for some time, and that there is practically no danger to those who are careful about drinking water.

AUTOMOBILE STEAM FIRE ENGINE.

A LONDON FIRM INTRODUCES MACHINES IN RUSSIA FOR TEST.

In reporting that an automobile steam fire engine of English make is being tested by the Riga fire department, Consul Hernando de Soto shows how practical is this method of securing Russian trade:

The engine was loaned for six weeks and shipped to Riga at the expense of the manufacturers in London. The automobile—which can attain a speed of 25 miles an hour—and the engine are propelled by kerosene. The engine, which develops 25 horsepower, can throw 4,850 gallons of water per minute. Including driver the equipment consists of 12 men.

This is one of many examples of European enterprise in the general effort to secure business in Russia, and should attract attention among American manufacturers. The representative of the English firm came to Russia to investigate the conditions personally and to

establish agencies. The fire engine will undoubtedly be bought by the Riga fire department, and other cities are likely to follow the example. As it has been repeatedly pointed out by most of the American consular officers, the sending of catalogues, usually in English and without prices, rarely will get the business. A personal canvassing of the field can not be too strongly recommended, and it may be safely stated that every American manufacturer who has gone to the expense of sending his man to this country has been amply repaid for his trouble.

GERMANY.

RELIABILITY TEST ON THE DANUBE.

Consul-General Richard Guenther, of Frankfort, states that under the auspices of the German Motor Yacht Club and the Austrian Automobile Club a competitive contest of motor boats will come off next May on the river Danube between Regensburg and Vienna. Already 20 boats have been entered for the contest. Speed is not aimed at, but the points for competitive test will be reliable working of the motor, consumption of fuel, comfortable equipment, and favorable appearance of the craft.

SCOTLAND.

RELIABILITY TRIALS OF AUTOMOBILE CLUB.

Consul J. N. McCunn, of Glasgow, reports that an announcement has been made by the Scottish Automobile Club provisionally fixing June 13 to 18 next for the 1910 reliability trials, details of which follow:

The trials will cover six days and about 1,000 miles of road. There will be eight classifications (other than steam cars) by cylinder capacity in cubic centimeters (0.061 cubic inch)—800 to 1,200, 1,200 to 1,575, 1,575 to 2,065, 2,065 to 2,708, 2,708 to 3,551, 3,551 to 4,656, 4,656 to 6,104, and 6,104 to 8,000. The entry fees for the first two classes will be $100 and for all other classes $126. Steam cars will be classed separately.

In making the announcement the club has in view recording the performances of regular touring cars in touring trim under stringent supervision and severe running conditions, and no credit is to be given to specially constructed or designed cars or any of abnormal proportions; only standard cars, embodied in manufacturers' or agents' catalogues for 1910, will be eligible. Petrol consumption as an item in the marks determining awards will be based on car-miles and not on ton-miles as formerly, and means will be taken to secure that the carried weight on all cars will be approximately equal. There will be two sets of awards in each class:

(1) S. A. C. technical performance certificates and gold medals, based on the combined results of reliability, hill climbing, and fuel consumption.

(2) General merit silver medals, based on same results qualified by difference between the price of cars in the class.

There is also the $500 silver cup for competition among teams of two cars. Complete rules and conditions will soon be available, and should any Americans be interested I will give them later particulars.

AGRICULTURE.

FRENCH FLOWERING-BULB INDUSTRY.

RÉSUMÉ OF THE SEASON OF 1909 AND SOME ESTIMATES FOR 1910.

American florists make large purchases of bulbs from Southern France, the declared exports through the consular agency at Toulon alone for the United States in 1908 amounting to $126,778. The following account of this industry by Consular Agent Francis Miltoun Mansfield will therefore be of especial interest:

The popularity of flowering bulbs (oignons a fleurs) may be said to have originated in France half a century or more ago through the enthusiasm for their culture given by Alexandre Dumas, père, and Alphonse Karr, and to the latter was due the development of the flower industry of southern France so far as its reaching out into foreign markets was concerned. From Ollioules (an overgrown village lying inland half a dozen kilometers from the sea near the western limits of the Department of the Var in southern France) to Cannes, Nice, Antibes, and Menton (at the Italian frontier) extends this great flower garden, though chiefly it is in the neighborhood of Toulon, from Ollioules to Le Pradet, La Garde, and Hyeres, that the flowering-bulb industry reaches its greatest height.

The United States is probably the largest buyer of French bulbs in these markets, and certain species supposedly grown in Holland have their origin here. The soil is seemingly better suited than any other to the forcing of the finer varieties of narcissi, hyacinths, and freesias, notwithstanding the progress which is being made elsewhere, notably in the Puget Sound region. Climatic conditions are exceedingly favorable here, the region being the most southerly in all France, and remarkably well sheltered from the violent north wind, the mistral, which so frequently tends to make the temperature uneven elsewhere in the same latitude in France. Here the exposure is full south and the forcing grounds, often terraced hillsides, are well drained and above all well sheltered, thus making possible also the development of the enormous cut-flower traffic of the winter months, when narcissi, hyacinths, violets, and carnations reach the Paris, London, and Berlin markets by special trains.

CULTURAL METHODS AND DIFFICULTIES.

The Roman hyacinth bulbs are put into the ground at Ollioules in October, and are planted in rows 20 inches apart and running from east to west. The first flowering sprouts appear in December and January, after which another blossom appears, less splendid than the first, but still of a luxuriance unexcelled elsewhere. The crop of next seasons' bulbs comes later, and are known as the "bulbilles de

multiplications," the first of which find their way into the shipments abroad about the last of June or the first of July. In general the bulbs shipped from Ollioules are large, heavy, and compact, but the maladies which are known to attack the hyacinth bulb, a sort of rot at the base and an insidious little worm which enters by an almost invisible hole, sometimes work a havoc with the crops which reduces the seasons' supply at Ollioules very considerably.

It is to be noted, to the credit of the shippers, that special care is taken that only healthy bulbs are sent out, so far as can be controlled. There has been from the causes mentioned a notable shortage of certain of the larger sizes of bulbs at Ollioules in recent seasons, notably that of the present, 1909. The present United States tariff rate is $2.50 per 1,000 on hyacinth bulbs instead of the former ad valorem duty of 25 per cent, but this need not affect the general average of prices, save that it adds to the cost of the smaller sizes and reduces that of the larger dimensions. Any notable shortage of the larger sizes (those above or approximating 6 inches in circumference) the coming season is what will govern the ruling market price.

Expressly affecting the 1910 crop and its prospective prices is the disaster which occurred at Ollioules on October 31, 1909, when a cyclonic tempest of hail and rain laid low all the budding carnations and in many instances washed out many thousands of already planted and sprouting bulbs. The damage was assessed at $400,000, probably an exaggeration of 50 per cent, but the greater part fell upon the growing plants above ground, principally carnations.

PROSPECTS OF FURTHER SUPPLY.

The incident may, however, be considered as one which will affect the quantity of bulbs available for trading in 1910 as well as their prices, and even United States buyers, who have the reputation of taking the finest stock (and incidentally paying the highest prices), may find difficulty in supplying their wants unless early orders are placed. Regardless of the extent of the crop elsewhere, either home or foreign grown, that of Ollioules and Hyeres is bound to have an effect upon the market if conditions of supply and demand in 1910 are at all like what they have been.

The quality of the 1910 crop in this district is likely to be good, for the season has not been unusually rainy and there is little likelihood of further humidity seriously affecting the crop.

The first large shipments of bulbs from Ollioules in 1909 should have arrived at New York about August 1, and amounted to about 2,500 cases. There is no assurance that the 1910 crop will be earlier or later, good or bad, larger or less in quantity, save as it may have been affected by the rain and hail storm of October last. There are no estimates to be had from the growers on the spot or at Hyeres or Le Pradet which will enable one to say that a less or a larger area has been planted (about 6,000 acres in the department are given over to floral culture, but this includes the area devoted to growing flowers as well as bulbs) for the coming season than formerly, but the fact that there was a demand in 1909 in excess of the supply (the United States not being able to get all that was desired), especially in the larger dimensions, points to the fact that strenuous efforts are

being made by the growers to meet the conditions of the prospective market.

The shipper, who is often a grower, will seek to augment his stock from outside neighboring sources and from the small growers who have not the facilities for marketing for export; this is evident from a knowledge of conditions, but so far as the districts neighboring upon Toulon are concerned they will demand that the stock be sound, healthy, and of good bulk. The small peasant grower may not always know how to distinguish the hyacinth malady, which often is scarcely visible from without, but the present shipper of "calibrage" (the measuring up of the circumferential dimension) has every means of verifying the soundness of the stock, and as a rule exercises it.

PRICE CONSIDERATION—AMERICAN HOME SUPPLY.

The sum total of opinions gathered from various direct sources is that French bulbs in 1910 will be higher in price, and this according to the scarcity of large sizes. This applies to bulbs of all kinds, but particularly to the chief article of competition, the white Roman hyacinth approaching the dimension of six inches. The shortage, if any, in 1910 is only foreseen with respect to the larger sizes, and this of course is based upon the current demand for those bulbs which will give the most luxuriant blooms, rather than any unsurmountable difficulties in growing bulbs of large dimensions. The price is freely offered by United States buyers at any rate for this class of product, and if it is lacking in quantity it is along the lines of increasing the supply that energies will be spent in the near future.

The experiments being made by the United States Bureau of Plant Industry may be expected ultimately to be felt with respect to the importation of foreign bulbs into the United States, but there is no grower in these parts with whom I have talked who admits its possibility, giving as a reason that his product is the best of all its kind and that nowhere else on earth are conditions for their growth so favorable as here. This may be a worthy assumption of local pride, but climatic conditions in this southernmost part of France are certainly unusually favorable. Nature has a great deal to do with the excellence of the bulb crop of Ollioules and Hyeres, for with the small growers at any rate very little scientific breeding or propagating is carried on; the larger growers, with capital and patience for experiment, are producing perhaps finer results, but nature taking its own course produces the bulk of the crop which is shipped from the region.

The fact that the hyacinth was originally of Asia Minor and Persia, where climatic conditions and those of the soil are perhaps not far different from what they are here, is a sufficient reason why the bulbs take root and propagate so luxuriantly and extensively on this Mediterranean coast. The hyacinth thrives best in a dry, temperate climate.

EXHAUSTIVE SHIPMENTS AND MARKET PRICES.

As to the scarcity and the "clean up" of the 1909 crop, application to three of the largest shippers of Ollioules in the month of November failed to produce a dozen bulbs of all kinds, though I

wished to make up a parcel of a hundred or more to send as a gift. Ollioules was literally sold out, and the rest were planted for the 1910 trade. The same was true of another smaller grower at La Garde, and there is no reason to suppose that the case was different with the growers of Hyeres.

The number of individual shipments of flowering bulbs from these parts, as per the consular invoices certified at this consular agency, exceeded in number those of 1908 by 16 per cent, but in money value the totals were 6½ per cent less than in 1908, it being borne in mind that with regard to hyacinths as well as narcissusi it was the larger and more costly bulbs which were found wanting, thus tending to reduce the volume.

In the Department of the Var about 6,150 acres are given over to "cultures florales," but this term may be said to cover all plant and flower growths (the principal of which is that which supplies the cut-flower market) and those grown for perfume extracts, as well as some considerable extent of territory devoted to the culture of immortelles, the "everlastings" of commerce.

The increased number of bulb shipments to the United States in 1909 was undoubtedly brought about by a shortage when orders in hand actually came to be filled, followed by a number of smaller subsequent shipments, and it is in averaging these shipments as to value that the number is relatively large and the volume somewhat short of the figures of 1908.

Prices the present season for shipments to the United States have run as given below, the figures given being the average prices. What concessions were made in the way of discounts for cash payments, or what augmentations there may have been in the nature of charges for cases and packing, can hardly be said to affect the value of the product as it reaches the consumer who buys at retail in dozens, scores, or even hundreds. The following are prices per 1,000:

Narcissus grandiflora, 5 inches, $3.92; extra, $5.21; Trumpet Major, $5.26; Grand Monarque, $5.40. Prices of Trumpet Major may appear relatively high, but some were included under this designation which brought as much as $6.75, though generally prices ranged from $4.63 to $5.80.

Freesias, Mammoths, $4.83; Refr. Alba, $3.47.

White Roman hyacinths, 4⅓ to 4¾ inches, $9.65; 4¾ to 5 inches, $12.55; 5 to 6 inches, $13.10 to $13.50.

Lillium candidum, 7⅞ inches, $13.90; 9½ inches, $15.45.

A PROBABLE MARKET FOR AMERICAN PUMPING MACHINERY.

The following supplementary report, on the French flower-bulb industry, from Consular Agent Mansfield, deals with the method of marketing, the methods of irrigation, and the possibility of a market for American pumping machinery:

Shipments of flowering bulbs from these parts to the United States during the past few years have been larger in number than formerly, but in many instances the values of the invoices have been smaller. The same is probably true of shipments to other countries. This has been caused by a shortage in the larger sizes of narcissus and

hyacinth bulbs, the prices of which, continually tending to increase, make up the greater sum total of the amount of the invoices. From this it is to be inferred that the demand for the finest qualities is constantly increasing, and this of itself should tend to stimulate the American grower to reproduce the varieties which are sought so greatly.

MARKETING THE BULBS.

There is a growing disposition on the part of the small grower to find his market direct, without the intervention of the middleman, the wholesaler, or shipper. There are many difficulties in his way, but, so far as relations with buyers in the United States are concerned, there is no reason why a producer of even so small a quantity of bulbs as 50,000 or 100,000 might not, if he could finance the affair, open up an outlet until the industry in the United States (at Bellingham, Wash., or elsewhere) can actually be made to compete with the product grown here in the south of France. While syndication has been the means by which the bulb-growing and cut-flower industry has been developed in the Department of the Var, it has its disadvantages, and many small growers are beginning to see the advantages of dealing directly with the foreign consumers. One such is known to have sold the first year of such direct business but 50,000 bulbs to a dealer in the United States, but for the second year the order was increased to 125,000, and the present year sees a standing order of 250,000 bulbs. The order is placed under certain restrictions and conditions as to price and quality, and is intended to cover the grower's entire crop.

The wholesaler naturally endeavors to hold his source of supply unto himself. Sometimes he holds the grower in such a way as to make competition out of the question—by advances on the growing crop, by supplying seed bulbs to the small grower for planting, and taking in return all the crop exceeding a certain dimension, leaving the grower the small bulbs for replanting, propagating, and developing the following year for his own profit—but, generally speaking, the relations between the grower and the buyer are those of price and quality.

PECULIARITIES IN PRODUCTION—EXPENSES AND PROFITS.

The crop does not always produce the same results, even under similar conditions, whether with respect to quantity or with regard to quality, but in general when a narcissus bulb has produced, as the result of a single planting, several seasons perhaps in the ground, say six or seven bulbilles or detached bulbs, it is invariably worthless except as a reproducer, the flower that it produces being very inferior. On a plantation where the bulbs have been planted only one season, and three or four bulbilles have been produced, it is reasonable to suppose that, upon replanting, all will produce blooms of a satisfying and even gratifying luxuriance. In general all that is specifically noted with regard to the methods of marketing the narcissi bulbs applies also to hyacinths, freezias, lilium candidum, etc.

Narcissus bulbs usually produce a first-class crop of three-fifths of those planted (3,000 to the are=119.6 square yards), which approach 5 inches, and are marketable at an average price of 25 francs

($4.83) per 1,000, while the other two-fifths are valued at only 12 francs ($2.32) per 1,000. The expense of cultivation is estimated at 20 francs per hectare (or 100 ares=2.471 acres), which leaves a profit of 40 francs ($7.72) per are, or 4,000 francs ($772) per hectare (2.471 acres). This represents the profit of the grower who sells on the spot to the dealer and shipper, the latter assuming all further

FIG. 1.—Noria with electric motor power, the chain of buckets descending into the well being the same as in the smaller and more primitive affairs; in appearance at least the most efficient of these machines in neighborhood of Toulon.

expenses of marketing, but who demand 50 additional bulbs per 1,000 purchased for contingent shrinkage.

METHODS OF IRRIGATION.

The bulb gardens and flower plantations of the Department of the Var are all, as are the plantations devoted to the growing of early vegetables, dependent upon artificial irrigation. Soil and climate,

favorable as they are hereabouts, must be supplemented by an adequate system of irrigation of some sort, or the crops fall off considerably. A means of frequent watering is indispensable. The rainfall is not abundant, but in the spring and autumn it often comes in a sufficient quantity to be of great benefit, though even at these times the plantations may suffer greatly for lack of moisture. For exploitation on a more or less extended scale little attempt is made to supplant nature's water supply, but the flower and bulb and seed grow-

FIG. 2.—Water-hoisting machine used in fruit and flower gardens in southern France.

ers and the truck gardens are dependent at all times on artificial means of raising and distributing irrigating water.

OPEN-AIR CULTURE PRACTICED.

All is open-air culture here, the only artificial protection given against the chills of night and possible though infrequent frosts being in very few instances by glazed sashes, or more frequently by straw mattings suspended over the growing vegetables, fruits, and flowers, but open at the sides. In addition, where even this protec-

tion is not thought necessary, there may be a wind-break of cypresses or a lean-to of a sort of heavy matting of reeds.

The distribution of the water supply is sometimes by flumes or sluices of wood or concrete, more often by mere ditches cut around through the beds, seldom by drains or gutters of tile or pipe laid on the surface or below it. A great loss continually goes on with regard to the water supply as furnished at the well or pumps.

IRRIGATING MACHINERY.

Almost invariably the water hoisting machinery in use is of the variety called noria, an adaptation (with very little improvement) of that used in biblical times, and since in the Holy Land, Egypt, Algeria, and Tunisia. It is practically an endless-chain bucket arrangement hanging down into the well, the gourds or pottery receptacles of the Arab and Berber having given way to zinc panlike pails.

If the noria is small it is worked by one or two persons, or the whole family may turn the great geared pole windlass for an hour or two each day. In this case the area worked is of small proportions, and much of the flower culture here is on this scale. With a larger noria a donkey, mule, or horse is used, sometimes a tandem of two. Raising water in this manner does not seem particularly arduous, but three horses per day are readily enough tired out thereat, as is the case with a noria recently installed. This very primitive and cumbersome machine has thirty buckets attached to its chain, emptying from each bucket nearly eight gallons of water at a time, but it is impossible to run it with less than three horses per day. A greater quantity of water was used on the flower farm where this large machine was recently installed than on any other property visited, and the machine was considered the most efficient of its kind that could be secured.

The noria is of the simplest construction, but it seems to satisfy these small cultivators. The large machine just described was well made, but certainly was not efficient for the power employed.

The winds here are unreliable but at times severe and windmills are not in use. The noria is, therefore, the ruling water raiser, and costs anywhere from $155 to $800 besides the cost of installation.

OUTLOOK FOR AMERICAN MACHINERY.

If American pumping machinery could be demonstrated to be the thing wanted, the proprietors of medium-sized and larger properties could be induced, with proper exploitation, to install it to replace the noria. But the preparatory work and the installation would have to be done directly by the manufacturer or his representative, or by the French agent, who could be depended on to carry a stock of parts for replacement in case of breakage. The opening for machinery of the kind outlined, simple and of moderate price, seems to exist here, but before engaging in meeting this want manufacturers should study the conditions on the spot.

There are something like 300,000 horticultural enterprises in France and presumably all of them have need of irrigating machinery to a more or less extent; that this is true of this district there need be no doubt.

CROP REPORTS.

CANADA.

PRODUCTION IN NOVA SCOTIA.

From a report of the Secretary for Agriculture, Consul-General James W. Ragsdale, of Halifax, furnishes the following summary of Nova Scotia crops for 1909:

Crop.	Area planted.	Yield per acre.	Total production.	Per cent of average crop.
	Acres.	*Bushels.*	*Bushels.*	
Hay	640,000	[a]1.5	[a]960,000	86
Oats	138,000	30	4,140,000	95
Wheat	20,600	20	412,000	81
Barley	10,600	23	243,800	84
Buckwheat	18,000	26	468,000	82
Beans	3,100	20	62,000	.....
Peas	1,500	24	36,000	.....
Potatoes	45,500	200	9,100,000	110
Turnips, mangles, carrots	20,000	515	10,300,000	.....
Forage crops and fodder	3,300	[a]11	[a]36,300	.....

[a] Tons.

Apples produced for home and foreign consumption amount to 725,000 barrels.

ARGENTINA.

ESTIMATED YIELD OF WHEAT, LINSEED, AND OATS.

Consul-General R. M. Bartleman, of Buenos Aires, furnishes the following official estimates of the production of wheat, linseed, and oats in Argentina for the agricultural year 1909–10, in metric tons of 2,204 pounds:

Provinces and Territories.	Wheat.	Linseed.	Oats.
Buenos Aires	1,757,500	295,300	574,000
Cordova	1,326,000	130,000	5,550
Entre Rios	178,500	111,900	16,650
Pampa Central	225,700	22,100	20,700
All other	790,800	335,550	15,650
Total	4,278,500	894,850	632,550

ARGENTINA AS A WORLD FEEDER.

The following statistics, covering the outlook for Argentina becoming the leading country in supplying the world's requirements of breadstuffs and meats, are taken from a review prepared by Dr. Emilio Lahitte, Director of the Statistical Department of that country:

It is conservative to estimate that very soon the Argentine will have an excess of 5,000,000 tons of wheat, and will occupy the first rank among the exporting countries of this grain.

Indications point to a corn harvest this year of at least 6,000,000 tons. In the United States, where the cultivation of corn is the object of exhaustive agronomical practice, the average yield is 1,565 kilos per hectare (25 bushels per acre), though on some of the best farms as high as 6,600 kilos per hectare (105.1 bushels per acre) are produced by means of outlays and labor which

would not be profitable with a less yield than 3,340 kilos per hectare (53.2 bushels per acre).

The average yield of corn in Argentina is 1,700 to 2,000 kilos per hectare (27.1 to 31.9 bushels per acre), and there are farms in the west and north of Buenos Aires and south of Santa Fe which, with the most rudimentary practice, yield as high as 4,000, 6,000, and even 7,000 kilos per hectare (63.7, 95.6, and 111.5 bushels per acre).

Although the world's production of Indian corn reaches the enormous figure of 90,000,000 tons, the international commerce therein is only 5,600,000 tons (annual average of the five years, 1903–1907). Until a short time since, the United States provided, approximately, 66 per cent of this demand, the remaining 34 per cent being exported from Argentina, Russia, and the Danube region, but the exportation from the United States diminishes each year, the necessities of its own markets absorbing 98 per cent of its production, in spite of the increase in the harvests. The Argentine is the only producing country that can compensate the difference.

All promises point to a not far distant period when the Argentine, with 30,000,000 head of horned cattle and 69,000,000 head of sheep and swine, with extended prairies and abundant grasses, and a population of 6,000,000 to 7,000,000 souls, will be called upon to occupy first rank among meat-exporting countries, with all the greater advantage in that it must produce it in greater quantities and of better quality by utilizing the ever-increasing excess of its corn harvests.

In 1908 the freezing establishments of the Republic exported 573,946 head of beef cattle. As the total export of frozen meat is consumed by the English market, these figures show the supremacy of the Argentine in that market over the other producing countries.

As regards mutton, the figures of the exportation for 1909 by the freezing establishments reach 3,297,667 head, approximately.

EXPORTS PAST YEAR—FINAL ESTIMATES ON PRESENT CROPS.

Consul-General Bartleman forwards revised estimates of the yield of the principal grain crops of Argentina for the current season, together with a statement of the exports of grain for last year:

The cereal exports of Argentina for 1909 were as follows, in metric tons of 2,204.6 pounds each:

Destination.	Wheat.	Corn.	Linseed.	Oats.
	Tons.	*Tons.*	*Tons.*	*Tons.*
United Kingdom	475,826	486,242	136,945	218,389
Continent of Europe	1 142,694	997,252	705,003	186,127
Ports of call f. o	709,087	848,444	61,092	4,397
Brazil	259,225	1,238	.....	13
Other destinations	11,623	30,644	8,518	27,829
Total	2,598,457	2,363,820	911,558	436,755
From Uruguay	31,097	8,887	1,891	78
Produced in Argentina	2,567,360	2,354,933	909,667	436,677

The final official estimates of the production of wheat, linseed, and oats for the agricultural year 1909–10 are as follows in metric tons: Wheat, 3,825,000; linseed, 800,500; oats, 591,000.

[The consul-general in a later report gives the final statistics of the export of corn—2,288,062 bushels, or 576,258 more than in 1908. Argentina is now devoting 7,500,000 acres to this cereal.—B. of M.]

The results of the harvest are not as satisfactory as was hoped from the favorable condition of the crops in November, 1909, when the first drought and subsequent general frosts occurred and changed these prospects materially. There will, however, remain a surplus of exportable grain, which, after deducting the quantities necessary for consumption and seed, may be approximately calculated as follows: Wheat, 2,400,000 tons; linseed, 700,000 tons; oats, 500,000

tons. While it is somewhat premature to calculate the corn crop, it may be expected that if the weather should be favorable and the locusts not too destructive, the harvest will reach the fairly satisfactory figure of 5,000,000 tons.

With these figures, and calculating according to the present prices of grain in the Argentine markets, the total value of this year's harvest will be $340,868,880 United States currency, thus distributed: Wheat, $127,380,000; linseed, $50,952,000; oats, $13,162,600; corn, $134,598,200.

Comparing these values with those of last season, the diminution is so slight that there is every reason to consider the season 1909–10 as very encouraging.

[A blueprint issued by the Argentine Ministry of Agriculture, accompanying Consul-General Bartleman's report, may be consulted in the Bureau of Manufactures. It shows the acreage under cultivation during the current season, as well as the railway rates for agricultural products and the zones dependent on the ports of Buenos Aires, Bahia Blanca, Rosario, and Santa Fe.]

CHILE.

INCREASED OUTPUT OF WHEAT, BARLEY, AND HAY.

The following information concerning the condition of the leading crops of Chile is furnished by Consul Alfred A. Winslow, of Valparaiso:

The outlook for the crops of the season which will end during the first few months of 1910 promises well. From 10 to 20 per cent more wheat and barley was sown in 1909 than in 1908, and an increased yield of from 5 to 10 per cent is expected. Of the 1908 crops, 4,825,880 bushels of wheat and 722,550 bushels of barley were exported, about 90 per cent of both going to England. The hay crop—alfalfa chiefly—in the central valleys shows an increase above 80 per cent over that of 1908. The fruit crop is above an average, but the grape crop has fallen below that of 1908; the large stocks of wine on hand, however, will be sufficient for home consumption.

The result of better farming is noticeable in Chile, and marked improvement may be expected along this line. The Government is doing much to encourage up-to-date agricultural methods, which will call for additional machinery. During the years 1907 and 1908, agricultural machinery of all kinds was imported to the value of $1,555,884 and $1,097,159, respectively, of which 39 per cent came from the United States, 35 per cent from the United Kingdom, and 18 per cent from Germany. [A list of the Valparaiso importers of farm implements and machinery is on file in the Bureau of Manufactures.]

SPAIN.

VALENCIA RAISIN CROP—OUTLET IN CANADA.

Writing from Valencia under date of March 2, Consul Robert Frazer, jr., says the raisin season for that Spanish district is practically finished. His details follow:

Total stocks remaining in the district do not exceed 10,000 hundredweight, which is by far the shortest stock supply recorded at this

date during the last 30 years. Exports up to date amount to 454,600 hundredweight, which, added to the 10,000 in stock, make the total crop 464,600, against 455,000 hundredweight actually exported in 1908. The following synopsis of the distribution of raisin exports to various countries for the present season compared with 1908–9 shows the present trend of the trade:

	1909–10.	Increase (+) or decrease (−).		1909–10.	Increase (+) or decrease (−).
	Hundredweight.	*Hundredweight.*		*Hundredweight.*	*Hundredweight.*
United Kingdom	243,760	+ 4,880	Russia	15,270	+ 6,440
Canada	82,000	+13,900	Norway	13,350	− 3,900
Sweden	21,800	+ 5,740	United States	9,840	− 1,207
France	19,000	+ 4,310	Germany	7,840	−16,000
Denmark	18,000	− 4,800			

The propaganda efforts of raisin growers and merchants this season to extend trade in northern European markets have only been partly successful, for while exports to Russia and Sweden record an appreciable increase, Denmark, Norway, and Germany, especially the last, show a marked falling off in consumption. Exports to the United States continue to decline yearly, and except in abnormal seasons of failure of the California crop United States markets are now generally regarded here as lost to Valencia raisin growers.

CROP DAMAGED BY RAIN.

As the greater part of the present crop was damaged by rain during the most critical drying period, the trade has been most unsatisfactory both for farmers and merchants. The average price of the season barely reached 14 pesetas (about $2.52) per hundredweight for ungraded fruit delivered in bulk in packing stores. This price leaves the grower with a deficit of at least 3 pesetas ($0.52) per hundredweight on the actual cost of production. Hence, where irrigation is available, the uprooting of muscatel vines continues and the soil is converted to general agriculture, while in dry and semiarid conditions farmers are extending the plantation of almonds among raisin vines, with the view of replacing the latter by almonds, now regarded as the most promising substitute crop with which to solve the acute raisin crisis.

The steady increase of Valencia raisin exports to Canada and the great future possibilities of the Canadian market are now centering the attention and energies of farmers and export associations on the prospects of obtaining more favorable tariff conditions from Canada. The fruit region is being canvassed to this end and is asking for a commercial treaty or other arrangement with Canada on lines placing Valencia raisins on the same tariff footing as is accorded French dried fruits in the Franco-Canadian treaty. The Spanish Ministry of State has been petitioned to this effect, and it is pointed out that as Spain enjoys precisely the same commercial relations as France both with Great Britain and the Dominion of Canada she is entitled to the benefit of the concessions accorded to French dried fruits under the Franco-Canadian commercial convention, which went into effect on February 1.

SUGAR TRADE.

PORTO RICO.

LARGER OUTPUT INCREASES DEMAND FOR MILL SUPPLIES.

Special Agent John M. Turner, writing February 21 from San Juan, presents a prospect for greater demand for sugar-mill supplies in Porto Rico as a result of the increased acreage in sugar:

Porto Rico produced for export in 1909 nearly 274,000 tons of sugar, which was made in some 48 sugar mills, or "centrals." It is estimated that the production this season will be considerably over 300,000 tons, the largest in the history of the industry. The mills are now grinding the 1909 crop, and their facilities are taxed to the utmost. The grinding season will be over in July or August and then supplies for the ensuing crop will be ordered. With the heavy grinding and larger volume of business the demand will be the greatest ever made. The acreage will be greatly increased during the coming season, hence there will be room for larger sales of material to the centrals.

Supplies for the following year are generally contracted for in July or August for shipment in November or December, except machinery, which must come as soon as the mills shut down, or as soon as possible after measurements are taken and plans drawn. For next season's use in Porto Rico there will be required, say 3,000,000 to 3,500,000 jute sacks for the sugar, and the twine to sew them. Laboratory supplies of all kinds and stationery in liberal quantities will be ordered. Machinery, belting, nails, screws, tools of all kinds, rivets of all sizes, and many other hardware supplies are used in a central. Lubricating oil, gasoline, and kerosene are also required. Small engines for pulling cane cars will be needed, as well as the cars themselves, and tracks to reach the new acreage.

This is a very important field for exploitation by those manufacturers having a class of goods used by centrals, as none of the 48 mills producing sugar for exportation sent out less than 139 tons, but 5 ranged under 1,000 tons, while 5 others exported, respectively, 12,635, 13,037, 17,386, 18,695, and 42,879 tons, the average for the whole 48 being over 5,700 tons each.

[The addresses of the leading centrals, with the amount exported by each during 1909, as given by Special Agent Turner, are on file and may be consulted by interested American firms at the Bureau of Manufactures.]

CANADA.

THE INDUSTRY IN ONTARIO—SHIPPING TO UNITED STATES.

Consul Fred C. Slater, of Sarnia, reports that considerable attention has been given to growing sugar beets in that part of the province of Ontario. He says:

A sugar mill erected at Wallaceburg, in 1902, is in full operation 100 to 120 days a season, with a capacity of 600 to 700 tons each 24 hours. The standard saccharine test of beets is 12 per cent, but last season's crop averaged about 15 per cent.

Large quantities of beets are also exported during the season—October–December—to the United States, the amount this last sea-

son being valued at $74,348. The sugar companies of Michigan contract with the farmer to plant a certain number of acres (from 5 to 60) and furnish the team work in connection with the cultivating, also foreign labor, usually Belgians or Russians, to do the hand work. Last year Michigan mills had so contracted for a little over 1,000 acres, but it is reported much larger for the ensuing season. Last season the farmer received $4.25 per ton, but all contracts this winter are written at $4.50. The sugar mills of Ontario also export some beet pulp to the sugar mills in the eastern part of the United States.

ENGLAND.

INCREASED CONSUMPTION—VARYING RATES OF DUTY—LARGE IMPORTS.

Special Agent Henry Studniczka, writing from London, gives the following account of the sugar industry in the United Kingdom and the increased consumption of that product:

The United Kingdom imports the sugar it consumes principally from Germany, Austria, the Netherlands, France, and Russia. For that reason the nation is directly interested in the world's production of sugar. The crop for 1910 will probably reach some 15,000,000 tons, of which 7,000,000 will be produced from beets, including 500,000 tons in the United States. India and many of the Oceanic possessions of Great Britain produce possibly 3,000,000 tons annually, which is consumed at home, and therefore does not enter the calculations of the world's exports.

Java, a neighbor of the Philippine Islands, is expected to produce in 1910 about 1,200,000 tons, or one-sixth of the entire cane-sugar crop, while the Philippine Islands will not produce over 150,000 tons. Yet the possibilities of the islands as a cane-sugar producer can hardly be estimated. With American energy and capital it should by far exceed the production of Java. Results similar to those developed in the island of Cuba since the United States assumed its guardianship may be expected in the Philippine Islands, and the production in Cuba has practically doubled.

LARGE CONSUMPTION—LOW PRICES AND DUTIES.

The consumption of sugar in Great Britain is greater per capita than in the United States. The per capita consumption in the United States in 1907 was 82.61 pounds, while the per capita in the United Kingdom was 85.19 in 1900 and 86 in 1909. In 1860 the United Kingdom imported 434,000 tons of sugar, and the per capita consumption was 34 pounds. Per capita increased to 47 pounds in 1870, 60 pounds in 1880, 71 pounds in 1890, 85 pounds in 1900, and 86 pounds in 1909. The imports last year aggregated 1,760,000 tons of 2,240 pounds each.

In 1870 refined sugar sold per hundredweight of 112 pounds at an average price of $8.27. This price was reduced in 1880 to $7.02, in 1890 to $4.74, and in 1900 to $4.01, which was the lowest average annual price. In 1905 it rose to $5.43, while in 1909 it was $4.98. In 1910, so far, refined sugar has sold for $5.41, with a fair prospect of a further advance. Sugar was retailed in London the first week in March at from 5 to 5½ cents per pound. In 1874 the sugar duties in

Great Britain were abolished, except on brewery sugar, and in 1888 this was also abolished. In 1901 duties were reimposed to the extent of $1 for each 112 pounds of 98 per cent polarization and over, which means all refined sugar. The raw sugar duties were reduced according to quality, 57 cents duty for 88 per cent polarization, beet sugar, and 49 cents for each 112 pounds of 76 polarization. In May, 1908, this duty was reduced to 37 cents for 98 polarization sugar, and the same proportionately on a down scale applied to raw sugar as in 1901, so that 88 per cent polarization beet sugar paid 30 cents for each 112 pounds.

GROWTH OF IMPORTS.

During the year 1881, when the duty was abolished, the total sugar imported was 1,071,000 tons, of which 932,000 tons were raw and 139,000 tons refined sugar. When the duty was reimposed in 1901 the total imported was 1,731,000 tons, of which 669,000 tons were raw and 1,062,000 tons refined. This proportion of raw and refined was maintained during the following seven years. When, in 1908, the duty was reduced the total sugar imported amounted to 1,675,000 tons—the raw to 733,000 tons and the refined to 942,000. In 1909 the total of the imports was 1,759,000 tons, raw amounting to 814,000 tons and refined to 945,000 tons. These calculations are all based on tons of 2,240 pounds. Great Britain has two sugar refineries in London, four in Liverpool, and five on the banks of the River Clyde in Scotland. In addition to these regular sugar refineries there are also three brewery refineries in London, which produce only brewery sugars. They invert low cane sugar with sulphuric acid into brewery sugars, called saccharine, which, however, is not to be confounded with the coal-tar product of other European countries.

In order that the British refiner may be able to export sugar to British colonies and possessions which place restrictions on the importation of Russian or other bounty-fed sugars, the commissioner of customs has, by request of the British Board of Trade, with the concurrence of the Colonial Office, instructed the collectors to furnish on application export certificates of origin for British refined sugars to be exported to such colonies. These certificates show that the sugar referred to is derived from a factory which does not work sugar from any bounty-giving states, to which there must be a guaranty by the signature of a British consul or vice-consul. In addition to this the refiner must also give a sworn declaration that the sugar so exported, to his positive knowledge, was not produced in any bounty-giving country.

OUTLOOK FOR CUBAN AND PHILIPPINE SUGAR.

The continuous increase of sugar consumption during the past 50 years and the visible shortage as it now appears in 1910, notwithstanding the fact that the island of Cuba is producing a larger crop than it has produced for many years past, can lead but to one conclusion—not only that the development of this tropical cane product in Cuba, Porto Rico, and the Philippine Islands must become a profitable venture to American capitalists, but that it will also require the full development of the Western beet-sugar industry to supply the continually growing demand for this one great staple article of food, not only in the United States but in the world at large.

SWITZERLAND.

UNSATISFACTORY CONDITION OF THE BEET INDUSTRY.

The following information concerning the consumption of sugar in Switzerland and the demand for a Swiss sugar monopoly is furnished by Consul-General R. E. Mansfield, of Zurich:

On account of the numerous chocolate factories, condensed-milk concerns, and hotels and restaurants patronized by foreigners, the consumption of sugar in Switzerland is greater per capita than in any other country in Europe, perhaps greater than in any other country in the world. The imports of sugar in 1908—and those in 1909 are estimated at about the same—amounted to 20,099,882 pounds, valued at $6,232,361, a decrease, as compared with 1907, of 412,214 pounds, but an increase in value of $175,800. The percentage of imports from the several countries is as follows: Austria, 41½; Germany, 18½; France, 8½; all other countries, 31½.

The chocolate and condensed-milk manufacturers use great quantities of sugar in their preparations, the annual output of their factories amounting to $6,000,000 and $7,000,000, respectively.

In regard to the beet-sugar industry of Switzerland, treated in a former report, an attempt was made in 1909 by the agricultural societies to encourage the purchase of the Aarberg factory by the Federal Council and operate it as a government monopoly, but the proposition was refused, and unless it receives a special impetus this year the beet-sugar industry of Switzerland will probably be abandoned.

HOP INDUSTRY.

RUSSIA.

RECENTLY INSTITUTED FAIR A SUCCESS—YIELD AND PRICES.

The likelihood of further development of hop growing as one of the agricultural pursuits of certain districts of Russia is foreseen by Consul John H. Grout, of Odessa, who writes:

Hops have been grown by the Russians for a long time, but generally only for local consumption. The principal obstacle to development was that the smaller planters experienced difficulty in selling their product, having to sell through various middlemen, who retained the greater share of the profits. To overcome this serious drawback, in 1908 a hop fair was instituted and met with general favor. The 1909 fair was even more successful, and on the day of opening there were present not only the purchasing agents of the principal breweries, but also foreign buyers, their presence being due to a shortage in the 1909 crop in some of the important hop-growing districts of Germany and Austria.

The Russian yield was decidedly below the average for quantity, particularly in the districts where purely Russian varieties are grown. Here the crop was about one-half of the 1908 harvest. The 1909 yield might be roughly stated as: 1,980 tons for the province of Volhynia, inclusive of the crop from the recently planted young plantations; not more than 540 tons for Poland; and about 1,260 tons for other districts, including some 900 tons of the semicultivated Russian varieties. To this should be added about 270 tons for the provinces of Kiev, Chernigov, Kharkov, and Vilno, from which no returns have as yet been received. The whole crop is expected to

reach 4,050 tons. Compared with 4,860 tons for 1908, with 5,400 tons for 1906, and with the record crop of 7,200 tons for 1905, the 1909 crop makes a poor showing. Even in 1904 there were about 5,040 tons of hops gathered, so that the 1909 yield is the smallest out of five consecutive crops.

As a set-off against this must be put the good quality of the last harvest. In most places the yield graded as first-class stock, and only such hops as were damaged through carelessness after being gathered were regarded as second class. The hops are richly fragrant, thoroughly good in color, and rich in lupulin. An average yield of 333 pounds per acre does not seem to have been exceeded. In December, 1909, prices ranged from $35.76 to $37.19 per hundredweight.

AUSTRIA-HUNGARY.

LARGE DECREASE IN PRODUCTION DURING THE PAST YEAR.

Consul Will L. Lowrie, of Carlsbad, furnishes the following statistics concerning the decrease in the hop crop of Bohemia in 1909:

The exports of hops from the Carlsbad district to the United States during the 5 years, 1905–1909, amounted to $1,397,455, the exports for the year 1909 alone amounting to $272,032.

The hop-crop center of Bohemia is Saaz, a city of 17,000 inhabitants, 50 miles northeast of Carlsbad. In 1909 the Saaz crop amounted to only about one-third the crop of 1908, due to many unfavorable conditions which developed during the season.

The following statement shows the hop yields of Austria-Hungary in 1908 and 1909:

Hop districts.	1908.	1909.
Bohemia:	*Pounds.*	*Pounds.*
Saaz	20,521,000	8,000,000
Auscha	6,500,000	2,500,000
Dauba	1,100,000	400,000
Total Bohemia	28,121,000	10,900,000
All other districts	10,679,000	8,100,000
Total Austria-Hungary	38,800,000	19,000,000

As a result of the small harvest in Saaz and other well-known districts the price of hops steadily advanced from $32.50–$37.55 in September to $55.82–$60.90 in the early part of October per 100 pounds, the highest figures since 1903.

The present system of drying hops, for which nearly all other systems have been discarded, is called "malt drying." Kilns are used in which the warmed air is conducted through the hops, which are placed on one shelf, or at most three shelves, one above the other. The drying requires about 8 days, depending on the weather, and is regarded as the most important process in the marketing of the hops. The hops are placed in the kilns fresh from the fields, and handled with great care. When thoroughly dried, they are packed, by heavy pressure, into bags which weigh from 110 to 242 pounds, ready for shipment.

According to figures furnished by the Association of Hop Dealers in Saaz, the cost of producing 100 pounds of hops runs from $14.20 to $18.30, according to the crop. This includes picking and drying, which cost at least $5 per 110 pounds, but does not include interest on investments, loans, etc.

PROGRESSIVE RUSSIAN ZEMSTVOS.

THE OUTGROWTH OF THE LIBERATION OF THE SERFS.

The following report concerning the organization of the Russian Zemstvos, their development, powers, and workings for the especial benefit of the agricultural interests of the Empire, is furnished by Consul-General John H. Snodgrass, of Moscow:

One of the most interesting features of the growth of industrial and political life in Russia is the development of the Zemstvos—provincial and district assemblies created on an elective basis—an organization born with the liberation of the serfs by Alexander II in 1861.

It was found necessary to establish local government in various parts of the Empire in order to study and attend to the wants of the population, which could not be successfully done by the central Government at St. Petersburg. This in view, the Zemstvos became a permanent working body in 1864 in 34 provinces and 1 territory of European Russia. The number of district Zemstvos in each province, besides the provincial Zemstvos, is now as follows: Bessarabia, 7; Ekaterinoslav, 8; Kasan, 12; Kaluga, 11; Kharkov, 11; Kherson, 6; Kostroma, 12; Kursk, 14; Moscow, 13; Nizhni Novgorod, 11; Novgorod, 10; Olonetz, 7; Orel, 12; Penza, 10; Perm, 12; Poltava, 15; Pskov, 8; Ryazan, 12; Samara, 7; St. Petersburg, 8; Saratov, 10; Simbirsk, 8; Smolensk, 12; Taurida, 8; Tambov, 12; Tchernigov, 15; Tver, 12; Tula, 12; Ufa, 6; Vladimir, 13; Vologda, 10; Voronezh, 12; Vyatka, 11; Yaroslav, 10; Don Cossacks Territory, 8; total 365 District Zemstvos. It has now been resolved to establish Zemstvos in the Baltic provinces, Poland, the Caucasus, and Siberia.

AUTHORITY AND POWER OF THE ZEMSTVOS.

The provincial Zemstvos have extensive authority over the people of the various districts, subject, however, to the governors of said provinces. They have charge of alimentation at times of famine and for victims of the elements, crop failures, hailstorms, etc., in supplying the necessary seeds for the following seasons. In time of famine the peasants are furnished with provisions and free meals. The expenditures in connection herewith are partly sustained by the Zemstvos and the balance from special contributions of the Government. They fix the rules and regulations appertaining to building, also to measures for preventing fires and the establishment of fire departments where necessary; they buy large quantities of sheet iron, which is being more and more introduced as roofing material by the peasants to replace the straw-thatched roofs heretofore generally in use, which very often led to disastrous conflagrations; they maintain orphan asylums, homes for invalids and destitutes, and workhouses; they have the right to establish credit institutions for granting loans on real estate and movable property, taking deposits and discounting bills of exchange; raising loans from the Government and from other sources upon authorization from the State; they are required to furnish the necessary buildings for courts, prisons, penitentiaries, and reformatories, and maintain the same; the council members elect the justices of peace and jurymen, but all the judicial functions are controlled by the Ministry of Justice.

The Zemstvos are in charge of education in their respective districts, are required to build and maintain grammar, commercial,

trade, and technical schools, and are also organizing art and commercial schools for the instruction of workmen in the trades; they also pay for the education at universities of some of their most promising pupils; the educational work of the Zemstvos is under control of officials of the Ministry of Education.

The medical and veterinary service in the various districts is entirely under the supervision of the Zemstvos, controlled by the medical board and the governor. This department comprises hospitals, insane asylums, homes for incurables, midwifery schools, hospitals for the blind, deaf, and dumb, lying-in hospitals, and drug stores. A staff of physicians, surgeons, and midwives is attached to these institutions and a supply of drugs is kept. Special attention is given to infectious diseases, such as cholera, also to pest among horses and cattle.

In those districts where there is no government post and telegraph service the Zemstvos establish, at their own expense, post and telegraph offices for the purpose of forwarding mail and telegrams to the nearest government offices. Telephone service has also of late been introduced by certain Zemstvos.

In recruiting soldiers for the army the Zemstvos take an active part, and are required to provide for those who have been enlisted until they join their respective regiment; they also care for the wives and children of soldiers enlisted in time of war, furnishing them with provisions (61 pounds of flour, 9 pounds of gruel, and 3½ pounds of salt for every person per month).

The building and repairing of country roads and bridges come under the supervision of the Zemstvos. Roads which are of importance to the State (for strategical purposes, etc.) are not entirely maintained at the expense of the Zemstvos, but an allotment is made by the Government. All road and bridge taxes collected go to the Zemstvos.

ZEMSTVO ELECTIONS.

Those qualified to elect the members of the Zemstvo Councils are landowners who are Russian subjects and own the required acreage established by law for the various districts—varying from 405 to 2,160 acres; the principals of charitable and educational institutions; individuals and representatives of companies who have owned the necessary acreage of property in the district for a period of not less than one year; all those who pay taxes on a property valued at $7,500; and representatives of the smaller landowners. Hebrews are not eligible. Elections take place every three years. The number of members of these councils is from 15 to 62 in the provincial (state) Zemstvos, and from 15 to 40 in the district (county) Zemstvos.

The sessions of the Zemstvo Councils are presided over by a president, who is elected out of the council members. All resolutions of the Zemstvos are subject to approval of the governors of the respective provinces, who have the right of veto, but an appeal can be made from their decisions to the various ministries at St. Petersburg.

RECEIPTS AND DISBURSEMENTS.

The total receipts of the Zemstvos in 1903, the latest figures available, amounted to $51,241,985, and the expenditures to $51,227,565.

The principal receipts are from taxes on real estate (land and forest), $36,325,010; taxes on commerce and industries, consisting of

the principal tax on trade licenses, $5,799,415; the remainder coming from taxes on real estate in towns, and from other sources.

The most important items of the expenditures were as follows: For medical purposes, $15,653,300; for educational purposes, $9,846,800; for building and repairing roadways and bridges, $5,900,265; administration expenditures, $5,214,890; the remainder for various purposes.

PURCHASES OF AGRICULTURAL MACHINERY.

In 1880 the purchases of agricultural machinery and implements amounted to approximately $51,500, but now aggregate about $5,150,000 per annum, two-thirds being bought by the peasants and one-third by the landowners and private individuals. The operations of the Zemstvos in agricultural machinery and implements is conducted as follows: (a) Commission basis; (b) cash transactions; (c) credit system; (d) renting out machinery.

The transactions on a commission basis consist of the execution of orders given principally by large land owners and the selling of machinery and implements consigned by manufacturers and dealers to the Zemstvos on a certain commission.

The credit system prevails, and the terms granted range from six months to three years, the amounts varying greatly with the different Zemstvos. The Kostroma Zemstvos, for instance, grant credits up to $103 to land owners and $13 to peasants. The Nizhni-Novgorod Zemstvos allow 52 cents per dessiatine (2.7 acres), the total amount thus granted not to exceed $155. Some Zemstvos require one-quarter, others one-half, cash down.

Of late there is a noted tendency among Zemstvos to deal direct with the Russian and foreign manufacturers, avoiding commission merchants or middlemen. This originally met with difficulties, as foreigners had no idea what "Zemstvo" meant. It is different now, and foreign manufacturers who formerly held back seek the custom of the Zemstvos.

IMPROVING AGRICULTURE.

In late years the Zemstvos have employed trained specialists to study the capabilities and requirements of the various districts and to instruct the villagers in some higher branches of farming. Under these measures improvements have been introduced, increasing the yield of the cereal crop by better seed selection and modern implements. Changes in crop rotation, by sowing a greater variety of grasses and roots, which serve as food for live stock, have also been more energetically adopted. Manure and chemical fertilizers are more generally and more scientifically applied, and there is an increased cultivation of fruit and vegetables. Bulls and stallions are kept at certain centers for the improvement of the breeding of cattle and horses.

There are about 35 agricultural experimental stations maintained by the Zemstvos, ranging in area from 54 to 613 acres. These experimental stations are mostly in connection with agricultural schools, the largest being in Kherson, Odessa, and Poltava.

The efforts of the Zemstvos to induce more extensive cultivation have been aided by the Government, and by the establishment of agricultural societies, mutual credit associations, and village banks, to which in some cases the state gives assistance. Under the supervision of the Department of Agriculture the Zemstvos are also taking

part in the development and preservation of the forests in their districts and in irrigating and draining the land.

[The American consuls in Russia have compiled lists of the Zemstvos in Russia, which may be copied at the Bureau of Manufactures by American business firms. The bureau does not have the clerical force to supply extensive commercial lists to applicants.]

TOBACCO IN FRANCE.

IMPORTS, EXPENSES, AND PROFITS OF THE MONOPOLY.

Consul-General A. Gaulin, of Marseilles, furnishes the following information covering tobacco and the tobacco monopoly in France:

The following statement shows the imports of tobacco into France, general and special, during the last three years:

Countries of origin.	General imports.			Special imports		
	1907.	1908.	1909.	1907.	1908.	1909.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
United States	15,887	15,209	11,284	12,922	14,250	6,604
Algeria	4,728	1,682	2,009	3,930	1,362	1,295
Other countries	17,344	22,310	17,626	11,523	13,234	12,182
Total	37,959	39,201	30,869	28,375	28,846	20,081

The special imports of cigarettes in 1909 amounted to 85 metric tons, as compared with 98 and 97 tons during 1908 and 1907, respectively.

The number of cigars entered for consumption in 1909 was 12,909,600, against 19,267,000 in 1908 and 17,765,300 in 1907.

The annual report of the director-general of the state manufactories covering the year 1908, just out, gives the following statistics for that year: Total purchases of tobacco, $99,269,550; profits of the monopoly, $75,218,855, or $661,604 more than the profits in 1908.

The following statement shows the sales of manufactured tobacco in France in 1907 and 1908:

Description.	1907.		1908.	
	Metric tons.	Per cent.	Metric tons.	Per cent.
Cigars	2,382	5.97	2,315	5.74
Cigarettes	2,794	7.00	2,906	7.21
Scaferlatis	28,724	71.99	29,155	72.37
Roll and chewing	1,149	2.88	1,157	2.87
Powder	4,851	12.16	4,756	11.81
Total	39,900	100.00	40,289	100.00

Scaferlatis and cigarettes (principally those selling from $4.80 to $6 per 1,000 foreign-made cigarettes and ninas) were responsible for practically all the increase noted. There has been a steady decline of late years in the sales of cigars. The average rate of consumption per capita was 36.11 ounces, viz, 31.84 ounces for smoking and chewing tobacco and 4.27 ounces for tobacco in powder. Chewing tobacco appears to be most popular in Brittany and snuff in Normandy and Anjou, while the departments of Seine and Bouches-du-Rhône consume the largest percentage of cigars and cigarettes. The total number of tobacco shops in 1908 was 47,447. The average profits of the retailers for the entire year amounted to $164.43.

STOCK FOOD FOR PORTO RICO.

EXTENDING SUGAR CANE CULTURE CREATES NEW ECONOMIC CONDITIONS.

Special Agent John M. Turner writes from San Juan on the activity in the Porto Rico sugar producing industry and its effect on land and live stock, with especial relation to the importation of feedstuffs:

The sugar crop of Porto Rico, now being cut, will be the largest crop harvested in the island's history. The acreage in cane this season is approximately 200,000 and the yield of sugar is estimated to be from 300,000 to 350,000 tons, an average yield of less than two tons to the acre. The high prices of the sugar sales for the present crop will stimulate the industry, and it is now calculated that the acreage will increase 10 to 20 per cent, and that more fertilizer will be used, and every improved method will be utilized.

With the increase in cane culture there must be a corresponding decrease in land employed for other purposes, and the cheapest land available is that used as pasture. In the land value assessments for last year made by the treasury department, the average value of cane land was about $90 per acre, while pasture land was only worth about $20. The more land taken from pasture and devoted to other purposes the less there is to feed the cattle and horses necessary in cane culture. With the reduction of pasture land will come a corresponding increase in the cost of maintaining the cattle, horses, and mules, the use and value of which will be enhanced by the increased demand for cultivating, hauling, etc.

There are now on the island about 210,000 draft animals, say, 170,000 steers and 40,000 horses and mules (also about 15,000 cows). These animals are increasing in value, with the increased demand for their labor and their natural grass feed getting scarcer. In a short time there will be a demand for cattle food from the States, and the attention of dealers in hay, alfalfa, and alfalfa meal, as well as manufacturers of mixed feeds, is invited to this trade opportunity.

CONSTITUENTS OF FEEDSTUFFS.

In entering the field to sell feeding stuffs it must be remembered that this is a new business for the island. No one knows from actual experience what "a balanced ration" is nor how to make one. The amount of protein, carbohydrates, fats, etc., will be wholly unknown to the average cattle feeder. He will want to know how much actual work a certain amount of feed is going to put into a steer and what it will cost him.

Sugar feeds—those depending upon molasses for merit—should not be shipped here, because molasses is one of the products of the country and can be had cheaply. The proposed Department of Agriculture, Commerce and Labor, provided by the new "organic act," the governor has informed me, will take up the scientific mixing of feeding stuffs. Molasses will be an important component, and as a good base must be supplied, it is possible that alfalfa meal, or the various kinds of ground cakes of linseed or cotton seed, may find an extensive market.

In considering this market, manufacturers or dealers in feeding stuffs must remember that all shipments must come 1,400 miles by

sea, and the charges are based upon cubic measurement, so the more compression used on the material the cheaper it will be transported. It costs 10 cents per bushel to bring oats from New York to Porto Rico, and the average price per bushel to the local buyer is 70 to 80 cents the year round. With this high cost it pays to import only the best, and the policy of the Government to educate the feed user to the use of the best is highly commendable.

The foregoing applies not only to Porto Rico, but to all the West India Islands. The Dominican Republic will not be in the market very soon for animal feeds, but Cuba already is, and with an increase in knowledge of values, mixed feeds should immediately become a large article of import from the States.

Molasses, as part of an animal ration, is unknown in Porto Rico, except as added to the drinking water of driving horses. Even then its food value is not considered, but it is added to the water because animals having once had it will refuse to drink clear water.

The department having the matter in charge for this island will probably use all available data on cattle feeding, and makers of prepared feeding stuffs should avail themselves of the possibilities of the department. It is doubtful if it would undertake to recommend any particular feed, but there seems no good reason why it should not examine a feed and estimate its feeding value, valuing it at so much, according to the base of values. In a talk with the governor on the subject, he expressed himself as favoring the importation of feeding stuff according to its value for use on this island, and that the values could best be arrived at by knowing the actual chemical contents, so it is quite possible laboratory tests may be made. This is mentioned to induce those makers of high-class feed to enter the market with the assurance that the value of what they offer will have due consideration.

RUSSIAN TALLOW.

DECREASING SUPPLY DUE TO CURTAILED SHEEP HUSBANDRY.

In the following report from Odessa, Consul John H. Grout shows how the supply of Russian animal fats is decreasing:

In the list of Russian exports tallow once figured as a staple, if not one of the leading articles. It has now almost completely dwindled away, and for every pound of edible fat which may be occasionally exported there are many pounds imported, principally Australian. The cause of this lies in the fact that a growing population has claimed more and more land for agriculture at ever increasing rates. Owing to this there has arisen a corresponding deficiency in grazing grounds, only that land being left which is not fit for planting. The further result of this is that the valuable fat-tail sheep are degenerating. This is regretted for the reason that their fat has been found to be one of the best food fats known. The accounts from the abattoirs in southeastern Russia, where these animals are killed for their fat and the balance of their carcasses salted, are to the effect that the amount of fat derived from each animal has decreased 8 to 18 per cent. Although 1908 was considered a poor year, the number of sheep sent to the abattoirs in 1909 is even several per cent short of that of last year.

CANADIAN GOVERNMENT CREAMERIES.

PROVINCE OF SASKATCHEWAN GIVES DIRECT AID TO DAIRYMEN.

Consul-General John E. Jones, of Winnipeg, submits the following report upon government aid to the dairying industry in the Canadian Province of Saskatchewan:

In Saskatchewan, notably in the northern portion, some farmers ship $60 worth of cream weekly, this being the product of about 20 cows. In a district where so large a traffic is carried on in this commodity a discerning provincial government has provided a system of government creameries. The dairymen's act of 1906 provides that a company of limited liability may be formed " for manufacturing butter or cheese, or both, and in conjunction therewith of providing cold storage therefor." The certificate of incorporation of this company must describe exactly the limits of the territory within which the company does business, and milk or cream is not allowed to be received from persons living without this territory except by permission of the commissioner of agriculture.

After the company has built its creamery in a favorable location and has arranged for a supply of milk and cream from not less than 400 cows for three years or more, to be delivered free of charge at the creamery, and has properly insured its buildings, the commissioner takes over for the season the management of the plant. The government provides all labor and supplies, exclusive of cream, keeps the premises in good repair, insures the butter, manufactures butter from the cream received, and pays to the patrons the net proceeds, according to the quantity of butter fat contained in the cream supplied.

Government aid to creameries is also given in another form by the Saskatchewan government that of single loans of $1,200, not to aggregate more than $10,000, to pay for the machinery. In order to receive a loan it must be proved that the location of the creamery will not encroach upon the business of an established creamery; in fact, the nearest creamery must be 20 miles away. The institution receiving the loan must also be in sound financial condition, with at least 10 per cent of the subscribed capital stock paid up.

CATTLE FROM MEXICO.

LARGE SHIPMENTS TO UNITED STATES FROM CHIHUAHUA.

The following report from Consul L. J. Keena, of Chihuahua, indicates the increasing shipment of cattle from Mexico to this country:

During the first eleven months of 1909 there were 90,981 head of cattle exported from the State of Chihuahua to the United States via El Paso, Tex., while the total number for December is estimated at over 12,000. The total for 1908 was 86,000. The average prices, United States currency, paid for cattle during 1909 were $10 for yearlings, $11 for 2-year-olds, $14 for 3-year-olds, and $16 for 4-year-olds up. In the late buying for spring delivery the price of each of these four classes shows an advance of about 50 cents.

Early in 1908 the state government approximated the number of range cattle in the State as 947,000.

GINSENG IN CHINA.

THE PEOPLE STILL CLING TO ITS USE AS A MEDICINE.

Vice-Consul-General J. Paul Jameson, of Shanghai, writes as follows concerning the use of ginseng in China and the best way to increase the consumption of the American root in that country:

Ordinary ginseng is used by all Chinese who can afford its use in the form of tea made by steaming the crude root in boiling water, which is supposed to have great strength-giving qualities; its use among the rich Chinese is universal, especially in winter.

In the medicine shops ginseng is ground into powder and used as an ingredient in many Chinese drugs. As long as the Chinese believe in its therapeutic value ginseng will be one of the most profitable commodities of import. While foreign patent medicines for Chinese use are flooding the country, they do not seem to interfere with the consumption of ginseng. According to official returns the imports of ginseng into China in 1908 amounted to 278,501 pounds, valued at $588,071, of which 125,119 pounds, valued at $457,320, were imported from Hongkong. American ginseng is shipped to Hongkong, whence it is distributed to all parts of the Empire.

At Hongkong a group of Chinese merchants control almost the entire ginseng trade entering China. For this reason the small growers in the United States will find it more profitable to dispose of their ginseng in the United States rather than seek to ship it to China, but the larger growers will find it best to communicate with the Hongkong merchants.

The firms dealing in ginseng in Shanghai have their own agents in the United States, and all their business would have to be done with such agents, so that the best plan would be to get into communication with the Hongkong merchants. [A list of the ginseng dealers in Shanghai and the address of the largest Hongkong ginseng firm, forwarded by the vice-consul-general, are on file in the Bureau of Manufactures.]

RUSSIAN FARM-IMPLEMENT TRADE.

PROPOSED ERECTION OF SWEDISH BRANCH FACTORIES IN RIGA.

According to the Rigaer Börsenblatt, Consul Hernando de Soto says that the Swedish consul in Riga has called attention, in a report to his Government, to the danger threatening the export of Swedish agricultural implements to Russia.

Lately it has been distinctly noticed that the Riga manufacturers, supported by the manufacturers in other parts of Russia, are about to submit a strong protest against the low rates of duty on agricultural machinery and implements, and especially against the free entry into Russia of certain large machines, such as binders, reapers, etc. The Russian manufacturers are confident that the Ministry of Commerce is favorably disposed to protect the interests of this Russian industry by raising the duty on agricultural implements upon the expiration of the existing treaties. The Swedish consul strongly recommends the erection of Swedish branch factories of agricultural machinery and implements in Russia, and in particular in Riga.

SPANISH FARM PROFITS.

YIELD AND RETURNS FROM IRRIGATED CROPS IN VALENCIA DISTRICT.

Responding to a request for certain facts regarding land and the profits of cultivating it in the Valencia district of Spain, Consul Robert Frazer, jr., says:

The most important agricultural products are oranges, peanuts, almonds, onions, rice, and garden truck, all of which, as well as everything else grown in this district except grapes, are given intensive cultivation. The average value of land per acre for oranges (planted) is $900 to $1,000; for peanuts, $400; almonds (planted), $600; onions, $400; rice, $500; and truck land, $600. These values are for land with some sort of irrigation, without which none of the crops mentioned will yield here. Those farms with first rights in the irrigation systems deriving their supply from rivers and streams are worth the most, those owning later water rights take the surplus after those ahead of them have been supplied, and so on to those with the most recent rights, for whom there is often no surplus left, and whose land is therefore less valuable. Those who have no rights at all in the river systems irrigate by primitive means such as an endless chain of buckets in a well, worked by horsepower.

The maximum values vary in the case of planted land, as oranges and almonds, according to the market for the products. Oranges, as well as all other crops here, except almonds, have been declining considerably in value for several years, causing a parallel decline in the land devoted to their cultivation. It would be safe to estimate the maximum value of orange land (planted) at $1,500, and that devoted to other crops at about 20 per cent more than the average given.

The average estimated profit is given in the following cases, though it should be borne in mind that the average wage paid to farm hands is only 45 cents per day, without food or lodging. Five per cent interest on the value of the land is charged as rent:

Oranges.—Rent, per acre, $42.50; fertilizer, $25.50; cultivation, $15; total expenses, $83; yield per acre, 25,000 pounds, at 12½ cents an arroba (25 pounds), $127.50; leaving a profit per acre of $44.50.

Almonds.—Rent, $30; fertilizer, $14; cultivation and havesting, $5.50; total expenses, $49.50; yield per acre, 730 pounds shelled nuts (4½ pounds per tree), at 15 cents per pound, $109.50; leaving a profit per acre of $60.

Peanuts.—Rent, $20; fertilizer, $17; cultivation and harvesting, $18.30; total expenses, $55.30; yield per acre, 100 arrobas (2,500 pounds in shell), at 85 cents, $85, and 1,500 sheaves dry plants, at $1.02 per 100, $15.30; profit per acre, $45.

Onions.—Rent, half year, $10; nursery plants and planting, $17; cultivation, $33; total expenses, $60; yield, 1,000 arrobas (12½ tons), sold on the spot without housing, at 10 cents an arroba, $100; profit per acre, $40.

Rice.—Rent, $25; cultivation, $24.50; fertilizer, $25.50; total expenses, $75; yield, 6,000 pounds per acre, at $1.75 per hundredweight, $105; profit per acre, $30.

The maximum profit from these crops might be roughly estimated as 50 per cent more than the average given, except in the case of almonds, which vary comparatively little, probably not more than 20 per cent from the figures given.

OIL-SEED PRODUCTS.

COTTON-SEED OIL AND MEAL.

THE NETHERLANDS.

A GREAT FIELD FOR PROFITABLE SALE OF OIL CAKES AND MEALS.

Special Agent Julien L. Brodé says that while the Dutch are the largest importers in the world of cotton-seed oil, about 150,000 barrels being annually brought in, they are not very partial to American cotton-seed meal and cake. He writes further:

The land on the whole is too moist to produce much else than grass, and therefore dairying is the main occupation of the farmers. According to the last census there were in Holland about 3,620,000 head of live stock, nearly one-half cattle. The dairy ration is composed largely of oil meal or oil cake and grass or hay. The heavy feeding of oil meal or cake is done during the time the cows are stall fed, which is from November 1 to about April 1. The remainder of the time the cattle subsist almost entirely on the abundant pasturage.

It is interesting to visit the small farms and see the strict attention which is paid to details. The farmer is well versed in the economy of space saving. For every foot of land in most of the sections he has had to combat for centuries the element of water, and consequently he prizes the soil highly and is endeavoring to make it yield the most for the labor expended to secure and sustain it. The outbuildings one usually sees on an American farm are in Holland conspicuous by their absence. The tall, pointed roofs of the farmhouses are not built merely as ornaments, but are used to house the winter stock of hay; also, under the same roof, usually in a room adjoining the kitchen, is the cow room. Six to seven cows are frequently housed in this manner during the cold months.

The following table shows the importation of oil cake and meal into Holland for the year 1909:

Imports.	Tons.	Imports.	Tons.
Linseed cake and meal	239,643	Other oil cake and meal	11,137
Rape-seed cake and meal	3,881		
Peanut cake and meal	1,704	Total	283,708
Cotton-seed cake and meal	27,343		

These figures indicate that this market is an extensive one for oil cakes and meal. The country offers, however, a field in which much work could be profitably done to increase the sale of cotton-seed meal and cake. Of the 27,343 tons of cotton-seed product imported only about 3,000 tons are retained in Holland. The rest is exported to Germany. Several reasons are mentioned why cotton-seed meal

and cake are unpopular; one is that it contains too much lint, which is said to cause bad effects; another is that it comes on the market too late—after the canals are frozen; and, finally, that it has not been properly exploited among the farmers.

INSTRUCTION IN USE OF COTTON-SEED MEAL NEEDED.

It would appear that the main drawback has been the lack of knowledge on the part of the farmer as to how to feed cotton-seed meal, because this season the canals have not frozen over at all, and the lint is harmless, as has been demonstrated repeatedly in America. Most of the meal which is used is Texas meal, which runs 55 per cent protein and fat. The linseed meal, to which the farmers are accustomed, tests only about 41 per cent protein and fat. Consequently, when a similar quantity of cotton-seed meal was fed, it was but natural that the overfeeding should give unfavorable results. This is reported to be the real cause of the present prejudice in Holland against cotton-seed meal. Some farmers claim it killed their cows, and those who found a little lint in the meal attributed the bad results to the lint.

The farmers are so well organized, and their local societies are so closely interwoven, that a complaint against a food stuff is widely disseminated, and a general prejudice is soon established. However, such close organization is also favorable to a campaign which has for its purpose the overcoming of such prejudices, because the individual farmer is easily reached. Each province contains many local societies of farmers organized for the purpose of cooperative buying and selling. These different societies are banded together and form one provincial society. In turn, all of the provincial societies form the national society, called the Royal Dutch Agricultural Society, with headquarters in Hague. In the provinces there are agricultural experiment stations, where milk testing and feed testing are carried on. The chief of these are at Wageningen, Groningen, Hoorn, Maastricht, and Goes. In each province there is also an adviser to whom the farmers can go for information. The adviser is supposed to keep farmers posted as to the up-to-date methods. Agricultural fairs are also held during the year by farmers in the various provinces. During the summer of 1913 there will be held at The Hague an International Agricultural Exposition (National en Internationale Landbouwentoonstelling). This will be a large affair and will be attended by the farmers and dairymen from Holland, Belgium, and also by many from Germany.

HOW TO POPULARIZE COTTON-SEED PRODUCTS.

As an outline for a plan of campaign to those exporters who desire to bring their special brands of cotton-seed meal before the Dutch farmers, the writer suggests that advertising matter in Dutch be sent to the directors of the experiment stations, to the farmers' advisers, and to the secretaries of the provincial farmers' associations. The latter in the meeting of their societies can lay the matter before the members. This should be followed up by advertising in the farm papers, and by having exhibits at the various provincial fairs during the coming two years. The Royal Dutch Agricultural Society of The Hague can be addressed for more details concerning these small fairs. By the time the large fair at Hague in 1913 occurs, the interest of

farmers in cotton-seed meal and cake should have been thoroughly aroused, and at this national exposition, a large exhibit of cotton-seed products should be held. The cost of having small exhibitions at the provincial fairs will be nominal. Sufficient space can be bought for about $20, and a man can be engaged through the exporter's agent or through the consulates at $2 per day. The small fairs last only about a week.

Were cotton-seed meal and cake an unworthy product it would be useless to exploit it thus, but as the farmers of Holland are groping in the dark as regards the feed problem and paying more for inferior products, they should be shown the light. It is only by education through pamphlets, newspapers, exhibits, etc., that the Dutch cattle feeder can be made to realize that what the stomach of the animal needs is not a given bulk of either corn, barley, linseed meal, or cotton-seed meal, but a certain proportion of carbohydrates, protein, and fat, and that he should seek these materials in the most digestible form and at the lowest cost from the feed stuffs at his command, whether they be in grain, rape meal, linseed meal, sunflower-seed meal, cotton-seed meal, or what not. The price of each feed stuff varies in accordance with its own natural laws of supply and demand, and if he figures his ration intelligently, he will not limit himself to one or two feed stuffs and thereby probably suffer financially when these happen to be high in value. Cotton-seed meal has nothing to suffer by having its ingredients closely scrutinized. On the other hand, in nine seasons out of ten, the farmer will find that he can not afford to seek protein for his stock from other sources.

IMPORTANCE OF BALANCED RATIONS.

Not only ought the stock feeder be able to recognize those materials in a feed stuff which make it valuable, but likewise he should know how to feed a balanced ration. He should compound it in such a manner that it will contain the proper proportion of protein and carbohydrates so as to secure in his animals the best results at the least cost. If those Dutch farmers who used too much cotton-seed meal, fed a ration in which the protein stood in relation to the carbohydrates as one to three, when the proper ratio should have been one to six, it is no wonder bad results were obtained, both as regards milk and finances. Protein is the most expensive part of any feeding material, and when fed in too large a quantity it is an important loss, as the animal can not assimilate more than it needs. Cotton-seed meal contains about the highest percentage of digestible protein of all vegetable feed stuffs, and most of the seasons its price is below that of many of the other oil meals; yet these are bought in some countries in preference to cotton-seed meal, simply because of ignorance as to the merits of the latter and the manner of feeding it.

The writer will have a booklet published in Dutch sent out to the secretaries of the various provincial united associations of farmers, to each of the advisers in the different provinces, and to the directors of the different experiment stations throughout the Netherlands. This booklet will give the analysis of the chief feed stuffs, and the percentage of digestibility of the ingredients of each, and will explain how the balanced ration may be compounded. There will also be tables showing the proportion the protein should bear to the carbohydrates in the rations for different animals. For instance, a cow

giving 27½ pounds of milk should be fed a ration in which the ratio is narrower than a cow giving 16½ pounds of milk. In the former case the protein should stand to the carbohydrates as one to four and one-half, whereas in the latter this ratio should be one to six. Again, an ox at rest in a stall should receive a wider ratio than an ox at work, and so on. It will also be explained how cotton-seed meal can successfully be fed to horses, pigs, and poultry. Furthermore, attention will also be drawn to the greater value of the manure from cattle fed a cotton-seed meal ration, the manure being very rich in nitrogen, the most expensive element in fertilizers.

Inasmuch as this booklet will be general in character it is advisable that printed matter advertising specific brands of cotton-seed meal and cake and giving the names of importing agents at domestic ports from whom the product can be purchased, should be sent by American exporters where it will reach Dutch farmers.

Although there is already a large demand in the Netherlands for linseed meal, its sale is being pushed vigorously. Men are employed to visit the farmers and explain personally to them the various methods of feeding it. The writer thinks a soft cake would be the best form in which to introduce the cotton-seed product. One mill in Holland is now engaged in the pressing of oil meals into such soft cakes. In this form the product commands a sufficient premium to pay the profit of so treating the meal.

Owing to the fact of such close alliance among the farmers, and to their having made such large claims in case any feed stuff was not just up to contract quality, the dealers have been forced to organize into an association for mutual protection. Recently both associations, that of the dealers and that of the farmers, jointly drew up rules to govern their trading with each other and outlined the manner and basis of settling claims.

[This report was accompanied by lists of the provincial advisers in agricultural matters, of the leading agricultural papers of Holland, of the dates and places of agricultural fairs to be held in the various provinces in 1910, a list of the secretaries of the various provincial cooperative societies of farmers, and also a copy of the joint rules of the farmers' associations and the association of dealers in feed stuffs; all of which are on file and may be consulted in the Bureau of Manufactures.]

SERVIA.

IMPORT DUTY HIGHER THAN THAT ON OTHER EDIBLE OILS.

Special Agent Julien L. Brodé, writing from Belgrade, describes as follows the conditions under which the Servian trade in cotton-seed oil is conducted:

The present duty on cotton-seed oil in Servia is 25 dinars per 100 kilos (1 dinar=19.3 cents; 1 kilo=2.2 pounds) as compared with 18 dinars per 100 kilos on olive, peanut, and sesame oils, and 20 dinars per 100 kilos on sunflower oil. In addition, there is a consumption tax of 20 dinars per 100 kilos, or nearly 1.8 cents per pound on all edible oils. This brings the total duty on cotton-seed oil up to 45 dinars per 100 kilos, or 3.9 cents per pound, before it can be sold to the consumers.

Even with these taxes, cotton-seed oil has an annual sale of about 5,000 barrels, or more than any of its competitors. It is popular with the people. One government official said that cotton-seed oil was thought to be unhealthy, and for that reason the higher duty was imposed in order to check its sale in Servia.

Most of the cotton-seed oil used here is American, but is sold in this market by European importers, the bulk of it coming through the ports of Trieste, Fiume, and Saloniki. However, some business is going on directly with American exporters.

A shipment of oil had just arrived at Belgrade from New Orleans. The buyer was pleased with the quality, but was complaining about the excess tare marked on the barrels, and said that the empty barrels were running five to seven pounds heavier than the marked weights. As considerable of the shipment was yet to be weighed, the writer asked to be allowed to witness the weighing of a few of the barrels, these to be selected indiscriminately from the lot. This was done, and while the gross weights held up within the one per cent allowed, the actual tare, after the barrels had been well emptied, was between six and seven pounds in excess of the marked tare. Allowing two pounds for the oil that is necessarily retained in the wood of the barrels, which in this case is ample, the actual tare was in excess of the marked tare four to five pounds per barrel. If the entire shipment was this much short (and the list of tare weights of the number of barrels which had been weighed indicated it would be), the total would amount to considerable. A similar complaint was made to the writer at Marseilles. The refiners should instruct the men who mark the tare on the barrels to be more careful, as such annoyances to new buyers may lead them to cease handling the product.

MANUFACTURE OF COTTON-SEED OIL.

There is one cotton-seed oil mill in Servia, at Belgrade. This has a daily capacity of about 12½ barrels. The machinery used is of the Anderson screw expeller type, which the proprietor had bought of Krupp, in Germany, who, he says, claims to have the European right to make such machinery. The lintless Egyptian and Turkish seed from around Saloniki is used. The seed is first warmed in steam before being pressed. The manager said that he only leaves about five and one-half to six per cent of oil in the meal, and claims to have a secret process. The writer was not permitted to go through the plant. The proprietor stated that he was now endeavoring to interest some capital in his factory, so that its capacity could be doubled. He wants to remove the plant to a more favorable point on the Danube, and erect in connection with it a mill for making oak barrels and a compound-lard plant.

In the large oak forests of Servia, which afford an abundance of acorns, hog raising could be multiplied many fold were it encouraged by local packing and lard-making enterprises. The countries of Servia, Bulgaria, and Roumania are naturally adapted to cattle and hog raising and, were favorable concessions obtained from the Governments (which it is thought might be secured), packing houses should meet with success from the start.

The manager of the cotton-oil mill in Belgrade is hopeful of an early increase in duty on cotton-seed oil from 25 dinars minimum

to 50 dinars minimum. This, he said, would enable him to increase his profits, although he admitted his output could not supply all of the present demands.

In Servia, as in Russia, the natives do not take to oil meal and cake. The cotton-seed meal made by this mill is shipped to Germany, and some even to Hull, England. Should the farmers of Servia and adjacent regions be led to adopt the modern methods in stock feeding, as practiced by progressive agriculturalists in western Europe and the United States, great financial benefits would result to them. They have all of the prerequisites, large plains, plenty of grain and cattle, and now cotton-seed meal. There is a great export trade in live stock to many parts of Europe, and this could be converted into excellent beef, packed meats, etc., were the people sufficiently progressive to adopt modern methods.

The United States is entitled to the most-favored nation treatment in Servian markets. The chief of customs said the question of putting cotton-seed oil imported as a comestible on the same footing as other table oils had never before been brought to the attention of their Government.

The good points of this oil were outlined to the chief of customs and a sample was sent to him, so that he could observe by actual tests its good cooking and salad-dressing qualities, and it is hoped that cotton-seed oil will soon be permitted to enter at the same rate of duty, 18 dinars per 100 kilos, as is imposed upon other comestible oils.

BULGARIA.

ONLY DENATURED COTTON-SEED OIL ADMITTED—DUTY HIGH.

Writing from Sofia under date of December 18, 1909, Special Agent Julien L. Brodé treats of the situation as regards the introduction and sale in Bulgaria of American cotton-seed products:

Bulgaria imports annually about 18,000 barrels of comestible oils composed mostly of olive oil, sunflower-seed oil, sesame oil, and arachis oil, amounts being in the order named. Practically no cotton-seed oil is imported. The Bulgarian tariff contains a provision that no cotton-seed oil can enter Bulgaria without having been first denatured. About seven years ago a shipment of very inferior cotton-seed oil was shipped into Bulgaria from some European mill, and a number of peasants were made sick by it. From the description of this oil, it must have been rancid crude oil. When the present tariff was drawn up the stipulation for denaturizing was imposed against the cotton-seed oil, and inasmuch as this clause in the tariff has never since been seriously complained against it has never been removed.

The duty on denatured cotton-seed oil in Bulgaria is 15 leva per 100 kilos (1 lev=19.3 cents, 1 kilo 2.2 pounds), while that on olive oil and other comestible vegetable oils is only 10 leva per 100 kilos. This places the cotton-seed oil at a severe disadvantage, even if the denaturation clause against it did not exist in the tariff. There is a heavy excise tax in addition, but this is the same on all of the oils. Average samples of cotton-seed oil have been sent to the Bulgarian official chemist for analysis to verify its wholesomeness.

There is practically no comestible oil produced in Bulgaria, and should the restrictions against cotton-seed oil be removed, it is thought

that the greater percentage of the annual importation of comestible oils will be replaced by cotton-seed oil. For this reason it is advisable for American refiners to appoint agents in Bulgaria now, and be prepared to exploit the market.

The annual export trade amounts to over $22,000,000, and the annual import trade amounts to about $26,000,000. Of this business the United States gets very little. The main reason, perhaps, is because there is no United States consular officer stationed in the country to report on trade conditions and submit the names of desirable agents soliciting American trade. Another reason is that the market has never been exploited by Americans. There are about 4,000,000 people in Bulgaria, and, now that it is an independent kingdom, the natural resources will be developed, and internal improvements will be carried on rapidly. The country is rich in minerals, and mining concessions are now being granted to syndicates.

A number of large contracts for railway stock were given out last March, and it is thought that more contracts will be made this coming March. The government is contracting at present for 150,000 kilos of lubricating oil for locomotives, and 300,000 kilos of lubricating oil for freight car wheels. The prices are c. i. f. Sofia, and include a drayage of ½ lev per 100 kilos, from the depot to the government stores. The writer was informed that 34.6 leva per 100 kilos is the lowest bid that had been received on 150,000 kilos of lubricating oil for locomotives.

In Bulgaria there is now a good market for iron bridges for railroads and highways, railway stock of all descriptions, locomotives, passenger and freight cars, rails, spikes, and switches, agricultural machinery, steam thrashers, straw cutters, mowers and reapers, cotton yarns, raw cotton, rubber shoes, small hardware, and sheet copper and zinc.

TABLE AND LUBRICATING OIL IMPORTS.

The imports of comestible and lubricating oils into Bulgaria during 1907 and 1908, the latest figures available, are shown in the following table:

Oil imports.	Years.	Whence imported.	Pounds.	Value.
Olive oil in casks	1907	Turkey	5,490,458	$454,450
Do	1908	.....do	5,968,791	498,177
Sesame oil	1907		124,260	9,602
Do	1908		166,750	12,799
Sunflower-seed oil, arachis, and other oils prepared for table use.	1907	Russia (sunflower-seed oil constituting greater part).	668,929	44,793
Do	1908	.....do	1,848,658	123,618
Lubricating oils	1907	Russia and Roumania	1,290,064	74,760
Do	1908	.....do	1,319,422	80,084

ROUMANIA.

ONLY A LIMITED AMOUNT OF AMERICAN OIL CONSUMED.

Special Agent Julien L. Brodé makes the following report from Bucharest, under date of December 22, on the comestible oil trade in Roumania:

Cotton-seed oil in the Roumanian tariff is classed with the other vegetable oils, all of which pay a duty of 30 lei per 100 kilos (2.6 cents per pound). Olive oil, in the general tariff schedule, pays a duty of 10 lei per 100 kilos (0.82 cent per pound). The conventional rate on

olive oil is 5 lei per 100 kilos (0.41 cent per pound). This low duty on olive oil, six times lower than that imposed on cotton-seed oil, is a great handicap to the latter, and, consequently, it is only in unusual years, when olive oil is scarce and high and cotton-seed oil is plentiful and comparatively cheap, that there is much hope for an outlet in Roumania for American cotton-seed oil. The finest grades of olive oil are too expensive to find ready outlets in the Roumanian market. Samples of the best American cotton-seed oil, with directions as to how it should be used, have been sent to the Minister of Foreign Affairs of Roumania, so he can demonstrate in his own household the palatability of that American product.

There are annually consumed in Roumania about 25,000 barrels of comestible oils, of which about 20,000 barrels are olive oil and about 2,500 barrels cotton-seed oil. Olive oil is now retailing at 240 to 360 francs per 100 kilos, 21 to 28 cents per pound, according to the quality; whereas the mixture of cotton-seed oil and olive oil retails for about 16 cents per pound. The wholesale prices of cotton-seed oil have ranged during the last two years between 75 francs and 95 francs per 100 kilos (6.5 cents to 8.1 cents per pound). Olive oil has ranged from 240 francs per 100 kilos (21 cents per pound) upward. The duty on either oil is not included. Prices are c. i. f. Galatz and Braila.

COTTON-SEED OIL SOLD UNDER OTHER NAMES.

Most of the cotton-seed oil that is imported by Roumania comes through the port of Galatz. It is mostly consumed in Moldavia, in the northern part of Roumania, but it is scarcely known to the consumer under its own name. Nearly all of the cotton-seed oil reaches the consumer in the form of a mixture of cotton-seed oil and olive oil. The consumer thinks he is buying the pure olive oil.

American refiners having agents in Roumania should instruct them to endeavor by all possible means to introduce cotton-seed oil to the consumer under its own name, and also to persuade the retailers who handle the product to sell it under the name of "cotton-seed oil." A trial by the consumer will convince him of its good qualities. Once establish the cotton-seed oil on its own merits and the necessity of selling mixtures in which the cheapest oil available is used as a base will cease.

The total imports of all materials into Roumania amount to about $86,000,000 and the total exports amount to about $110,000,000. This trade is mainly divided among Germany, Austria, England, Italy, France, Turkey, Belgium, Russia, Switzerland, and Holland, in the order named. The American exporters and buyers seem to have ignored this market, and the trade between the two countries is very small. There is no reason why it can not be increased if properly exploited.

The Roumanians are willing to buy on the terms of cash against documents on the arrival of goods in the ports of Galatz and Braila. Drafts can be drawn on the banking firms of Bucharest, who can present the documents through their agents at the ports on the arrival of the goods. The most direct line by which to ship goods is the Greek Transatlantic Steam Navigation Company, which has steamers from New York to Constantinople, and the Ionian Steamship Company has weekly sailings to the Roumanian ports. By this route there will be only one transshipment.

ENGLAND.

DECREASE IN PRODUCTION AND INCREASE IN PRICES.

Consul Augustus E. Ingram, of Bradford, England, furnishes the following report concerning the unexpected decrease in the output of cotton-seed oil and the increase in the use of soya bean and other oils and fats:

According to a recent review of soap manufacturing in the United Kingdom during the past year, the fluctuations in cotton-seed oil prices have been disconcerting and puzzling. The American market is predominant in this oil, and as it is reported that, owing to a great shortage of hogs in Western States, American cotton-seed oil produced this season will be needed almost entirely for feed purposes, still higher prices for this class of oil are expected.

According to leading Liverpool authorities, the position of English cotton-seed oil for 1910 is discouraging. In July last it was estimated that the Egyptian cotton seed would be 80,000 to 100,000 tons more than the previous crop, but owing to sudden weather change at crop maturity the estimate dropped to 60,000 tons less than last season. Seed prices rose $33.50 to $45 per ton, the highest ever recorded.

The cotton-seed supply from Brazil is also disappointing, but from Bombay imports are likely to be large, which may make up some of the deficiency in other quarters.

There is no hope for even moderate prices for English cotton-seed oil the coming year, and it appears that, with temporary reactions in this and other oils, the price in Hull by August 30 will reach $8 per 112 pounds, naked, at the mills.

As no supplies of linseed oil can be expected from the United States, and as the Argentine crop will probably be 200,000 tons less than last year, unless record shipments are received in the spring and from India, the price of this oil is expected to advance from $7.30 to $8 per 112 pounds, naked, at the Hull mills.

SOYA BEAN AND OTHER OILS.

The Liverpool firm also makes the following report on Chinese and Eastern oils and fats which are becoming important in Europe:

Shipments of soya beans from Manchuria during 1909 amounted to about 350,000 tons, and also a large quantity of soya oil from China and Japan. European markets welcomed this new supply, which has prevented a further rise in lower grades of vegetable oils.

The greatest interest is shown as to the supplies of soya beans during 1910, but owing to the undeveloped state of the (Chinese) interior, reliable figures of stocks and available supplies can not be obtained. Present prices must be remunerative to farmers, and every effort will be made to develop this industry; yet, advices are, that shipments for the first six months of 1910 will not equal those for the same period of 1909. The value of soya oil for soap making in Great Britain is about 36¼ cents per 112 pounds under cotton-seed oil, and on the Continent, for soft-soap making, its value is about 12 to 24 cents per 112 pounds under linseed oil. The oil is also found to be serviceable for other uses, and if the forecasted prices of cotton-seed and linseed oil are right, soya-bean oil will move in sympathy with them and $7.30 per 112 pounds will be paid therefor in Hull during the coming year.

Another Eastern fat attracting wide attention is China vegetable tallow, obtained by boiling the fat which covers a wild vegetable product resembling the English pea. The preparation of this vegetable tallow is receiving scientific attention, and instead of ruling $19.50 per ton under South American tallow, it will in future probably bring a price equal to that article, and possibly more.

China is also commencing to ship cotton-seed oil and rape oil, and it is hoped that curtailed supplies from other countries will be made up from the East.

FEEDING STUFFS.

As to feeding stuffs, the following statement from the same source may be of interest:

A new feature is the manufacture of decorticated cotton-seed cake in China, analyzing from 48 to 53 per cent oil and albuminoids. Unfortunately, the quantities available are not yet large, but mills are being extended, and slight relief will be forthcoming. Considering the length of the voyage (six weeks) the goods arrive in good condition. In China the manufacture of rape-seed cake has commenced and will, we trust, be developed. Soya-bean cake has been most valuable during the past year in making up the deficiency in other quarters and will continue to do this for 1910. The value of this cake as a food is exceptionally good, and it is possible that the crushers may utilize the meat of the bean, after the oil has been pressed out, for the manufacture of flour as a substitute for wheat flour.

INDIA.

SUITABILITY OF BY-PRODUCT FOR MAKING COOKING FATS.

In reporting that there seems to be a good opening in northwestern India for the manufacture of edible greases from cotton-seed oil, Consul Stuart K. Lupton, of Karachi, gives the following information:

One of the most universal food requirements of India is ghi, or clarified butter, for cooking purposes. Ghi sells now for about 20 cents per pound, a rise of something like 150 per cent in the past few years, and as a consequence the poorer classes must take an article which they know to be much adulterated or else do without. On account of their religion neither Hindus nor Mohammedans will eat imported greases, fearing the presence of animal fats, so the substitute, to be successful, must be manufactured in India. The production of cotton in the Punjab is large, but the pressure of oil is small in comparison, largely, I believe, because the work stopped when the oil was pressed. However, a large supply would be forthcoming if there were a demand for it, and a business of huge proportions would gradually spring up.

SOYA BEANS.

CHINA.

FREIGHT RATES FROM NEWCHWANG TO THE UNITED STATES.

Having received several inquiries from interested firms, Vice-Consul C. L. L. Williams has secured the following freight quotations on shipment of Manchurian beans and bean cake from Newchwang to San Francisco and Seattle:

By the Compagnie des Chargeurs Réunis, from Chingwantao to San Francisco by direct steamer, the rate is $3.50, United States currency, per ton of 2,240 pounds of bean cake. The railway freight per ton from Newchwang to Chingwantao is quoted by Tientsin shipping agents in 150 to 200 ton lots, at $0.895; 200 to 300 tons, at $0.875; 300 to 400 tons, at $0.835; 400 to 500 tons, at $0.795; and 500 tons, at $0.755. Loading expenses at Newchwang are included in above except wharfage. Expenses at Chingwantao are paid for

by the steamer, except for storage when goods arrive at Chingwantao a considerable time before the steamer.

By the Nippon Yusen Kaisha the rate from Kobe to Seattle is $6 per ton of 2,000 pounds of beans in bags; from Newchwang to Kobe, $0.955 per ton; transshipment charges, at $0.55 per ton.

The rates are approximately the same on beans and bean cake.

The great difference shown between the rates quoted by these two companies is an eloquent commentary on what a direct line of steamers between the Pacific coast and North China might do for American trade. Unfortunately, the Compagnie des Chargeurs Réunis operates its steamers only from China to America, not back again.

During the first three quarters of 1909 beans and bean products were exported from this port in tons as follows:

Article.	Hongkong.	Great Britain.	Samarang.	Germany.	Japan.	Chinese ports.	Total.
Beans	10,025	21.5	2,566.5	.....	9,004	99,383	120,960
Bean cake	.....	228.5	1,380	685.2	167,999	19,300.8	189,593.5
Bean oil	6.6	75.3	17.2	.....	272.5	6,888.5	7,260.1

DALNY.

PRICES AND COST OF SHIPMENT.

Writing from Dalny at the end of January, regarding soya beans, Vice-Consul A. A. Williamson states that the whole market has been in an unprecedented state of upheaval this season. He says concerning prices and freights:

Beans are now at prohibitive prices, higher than ever before—$1.66 gold per 133⅓ pounds. Absolutely no guaranties as to oil contents or moisture can be given. Terms of payment and freight rates must be arranged by charter party or with the shipowner and the buyer for each shipment. To Europe freight may be anything between $5 and $8.50 per gross long ton. For chartered steamers for full cargoes the present rate is about $6.80 to $7.05 per ton as against $5.25 to $5.70 last season.

On account of the high duty on beans—45 cents per bushel of 60 pounds—very few have gone to the United States. The chief bean product which Americans buy is oil. The rates are difficult to obtain on account of competition. From Kobe they are the same on all lines, namely: New York, per 100 pounds, $1.70 for less than carload and $1 per carload; to San Francisco or Seattle, $6 per short ton (10 bags average one short ton). For transfer, wharf, storage, and loading charges, stevedorage on steamer, 8 cents, and loading to deck of steamer 12½ cents per short ton. Godown rent, first 10 days, free, afterwards one-half cent per day, per 20 bags. Rebagging on wharf, 2 cents per bag. Shifting to steamer side, 1½ cents per bag.

The present high prices are probably due to the system of buying for future delivery from the Chinese farmer and the Chinese dealers in the interior, supplemented by the consequent failure of several important Chinese firms and the necessity for fulfilling contracts at any price by the big exporting houses.

OLIVE OIL.

FRANCE.

ESTIMATED YIELD OF OIL IN THE PRODUCING COUNTRIES.

Consul-General A. Gaulin, of Marseilles, furnishes the following information concerning the estimated yield of olive oil in the several producing countries for 1909–10:

Estimates of the olive crop in France for the season 1909–10 indicate about one-half the normal size, although certain dealers claim it will not exceed one-third. Prices rule high, with an upward tendency. The average production during the last decade has been about 125,000 tons. The planted area is approximately 328,648 acres.

A local merchant who has just returned from a tour in the principal olive-growing regions submits the following review of existing conditions:

Although the crop year 1908–9 was the worst on record, the season did not end as was expected, with exhausted stocks of oil. There were here and there, and still are, stocks of all grades of oil. Regarding the new crop, the situation in the different countries is as follows:

ESTIMATED OLIVE-OIL PRODUCTION.

Spain.—The 32 olive-producing districts of Spain, the most important producing center, with a planted area of 3,289,943 acres, gave 70,533,510 gallons of oil in 1906, exclusive of oil extracted by sulphide of carbon or benzine from the pulps. New trees have since been planted, and as this year atmospherical conditions were favorable, a full crop was obtained in 31 of the 32 districts, the province of Jaen being the only exception.

Italy.—The planted area in 1906 was 2,688,738 acres, with a production of 67,363,470 gallons of oil. In some of the 11 oil-producing districts there has been some damage done by unfavorable weather, but the general outturn is estimated between a three-fourths and a full crop.

Asia Minor, Candia included.—According to reliable information the crop in Mitylene, Awaly, Chio, Samos, Rhodes, Candia Island, and Syria in 1906 was about 51,513,240 gallons, and this season it will not be below that figure, as, especially in Candia, Syria, and Mitylene, the crop is good.

Greece.—Last year's crop was poor and the production of the 642,471 acres was much below the average—17,171,080 gallons of oil. In certain of the 22 producing districts the crop is a full one, and in some, Corfu, for instance, it will be a record one.

Tunis.—The planted area in 1906 was 576,988 acres, with a production of 7,977,944 gallons of oil. The planted area has been reduced much since 1906. On account of the dry weather the crop was for some time in great danger, but heavy rainfalls did good and the crop can be considered as a medium one.

Algeria.—This season's crop will at least equal that of 1906, which was 6,366,507 gallons of oil for a planted area of 172,973 acres.

Portugal.—The planted area in this country (543,629 acres) gives a medium production of 11,306,496 gallons of oil. Everything was favorable, and the total output should exceed the average production.

The above figures do not include the oil extracted from the pulp, the quantity of which is impossible to estimate, but which reaches an important figure. Part of this oil comes into the trade in the form of neutral decolored olive oil.

ENGLAND.

ITS USE IN THE PROCESS OF WOOL COMBING IN BRADFORD.

The following information concerning the effects of oil adulterations in wool combing in Bradford on account of the high price of olive oil is furnished by Consul Ingram:

In order to facilitate wool combing and to give the material a better handling property it is necessary to add three to four per cent

of oil to the backwashed sliver. High-grade olive oil is used for this purpose in Bradford, and wool combers have been heavily handicapped during the last year by the increased cost of this oil. In February $306 to $311 per tun was quoted for Malaga and Seville oil, because Spain, usually a controlling market factor, shipped little olive oil, owing to the large home demand. The chief source of supply during 1909 was Candia and the Levant. It is believed the Spanish crop for 1910 will warrant a considerable export, but owing to the recent heavy advance in all edible fats and oils, particularly in cotton-seed oil, prices for olive oil are not likely to rule low.

Owing to the high price for olive oil an unusual amount of adulteration was carried on during the past year, large quantities of peanut oil (the cost of which has been about $156 per tun), having been used. This is a serious matter to wool combers, as this adulteration can only be detected at the time of purchase by an exhaustive and expensive analysis, but when used on the wool its presence is detected in a few months by the oil becoming dry and the wool sticky and difficult to handle. This never happens with pure olive oil, no matter how long a time may elapse after it has been applied.

The British imports and exports of olive oil, according to the Board of Trade returns, were as follows for the last three years, in tuns of 252 gallons:

	1907.	1908.	1909.
Imports	12,328	12,152	8,974
Exports	2,601	1,800	1,466
Net imports	9,727	10,352	7,508

A Liverpool house reports a violent advance in the price of olive oil early in 1910, prices at shipping ports rising to $229 cost and freight for Malaga; $224 for Seville; and $229 to $234 c. i. f. for Candia and Levant. This advance was apparently due to late crops, and active demand for oil in the north of Spain, Syria, etc., and the holding back of oil by large dealers in interior Spain. Recent advices indicate that the advance had been too rapid and that prices would give way.

CAUSE OF THE HIGH PRICES OF OLIVE OIL.

A letter recently published in The Yorkshire Observer, from a correspondent who had just made a tour of the Mediterranean oil-shipping ports, reads as follows on the effect of the olive harvest on the market prospects of the coming season:

A sudden and unexpected change has taken place in the Mediterranean olive-oil markets. In January the French Bourse quoted the finest qualities of textile olive oils at $17.37 to $18.33 per 100 kilos (220.46 pounds) f. o. b. There was such a rush of buyers at these prices that by January 12 everything available for shipment this month had been bought up, and prices were immediately advanced to $20.25 and $21.25. Prices still harden, as the demand exceeds the available supply. The same has also taken place in all olive-oil markets in the South and East. Candia olive oils, which were offered in the beginning of January at $187 per tun, are now firmly held at $219 to $224 per tun. Spanish olive oils have experienced the same advances. Spanish merchants have cleared the market of all available stock for local requirements. The quality of the oils this season is superior, and a larger proportion than usual is suitable for edible purposes. With the more careful gathering and pressing of the olives, filtering and refining of oils that has been adopted in almost every oil-producing country in recent years, the trade in edible oils has largely increased,

and as shippers get higher prices for these oils than those sold for textile purposes, there is less oil available for textile trades. This, to a great extent, has taken the fine Malaga olive oils off the market for the past two years, and the same thing has happened this year. Recent storms and floods have also had a hardening effect on the markets. There continues a strong demand for both edible and textile oils, so that prices are not likely to weaken before the end of March or April, if then.

OIL OF PETITGRAIN.

PARAGUAYAN PROCESS OF MANUFACTURE AND USES OF THE PRODUCT.

Consul Cornelius Ferris, jr., of Asuncion, furnishes the following information concerning the preparation of petitgrain oil in Paraguay and the properties of the product, supplementary to a previous report from the Asuncion consulate in 1908:

Oil of petitgrain is distilled from the leaves of the wild bitter-orange trees; neroli is distilled from orange flowers. Neroli is not produced in Paraguay, as its production would require cultivation and skilled labor to bring the trees into bloom at regular seasons for gathering in large quantities.

The wild bitter-orange tree is so abundant in Paraguay that the leaves can be gathered at all seasons. The trees are stripped by the natives, who receive about 12 cents, American, per 22 pounds of leaves. It requires 550 to 660 pounds of leaves to make a quart of oil. The process of distillation is simple, almost primitive. It takes four hours to distill a quart of oil. On this account the dealers and exporters, after purchasing the oil, refine it in their own establishments, purifying and filtering it by a secret process. The oil before purifying has a distinctly oily odor, while after purification it has a perfume like Florida water.

It is asserted that a European country, which may be said to control the market, mixes a little oil distilled from orange flowers with the petitgrain oil and puts it on the market as neroli—it is even claimed that the best grade of the Paraguayan product has been branded in that country as "neroli."

Oil of petitgrain is used as the basis of perfumes, especially in the scenting of toilet soaps. It is the only Paraguayan product exported to the United States, the exports thither in 1909 amounting to 17,264 pounds, valued in gold at $24,767.

The price of the oil in Asuncion in February was $3.70, gold, per 2.2 pounds, but the price is subject to fluctuation on account of exigencies of the French market, the principal outlet for the product. [A list of Paraguayan dealers in the oil, transmitted by Consul Ferris, is on file in the Bureau of Manufactures.]

FOODS AND DRINKS.

MEAT AND PORK PRODUCTS.

ENGLAND.

PRICES OF AMERICAN AND BRITISH BEEF.

The following information, covering the prices of beef in Nottingham, and the consumption of the foreign product in Great Britain, is furnished by Consul Frank W. Mahin:

The present prices per pound of the various cuts of beef in Nottingham are as follows, British beef paralleling American, for comparison:

Description.	American.	British.	Description.	American.	British.
	Cents.	*Cents.*		*Cents.*	*Cents.*
Brisket	5	10	Sirloin	16	20
Stewing	11	14	Rump steak (no bone and little fat)	20	26
Round	14	18-20			
Rib roast	14	20			

As beeves are not cut up the same here as in the United States, there is not the exact equivalent of a porterhouse steak, but some local butchers so call the rump steak.

The American beef is refrigerated, not frozen, and comes from Chicago. It is retailed here by a great meat company, which has 25 shops in Nottingham and about 2,000 in the Kingdom. They sell no British beef, as a rule, but specialize in chilled beef from the United States; they also deal in frozen beef from the River Plate. The latter retails at 2 to 4 cents a pound less than the American; it is bought cheaper than, and is not considered as good, as the American.

If any American beef imported alive and slaughtered in England is sold in this market it is not generally known. If such is the case it is apparently sold, without special designation, along with British beef and at the same price. Some shops display the sign, "Only British beef sold here," an intimation that the supplies in other shops are not wholly domestic. The average well-to-do Briton will not knowingly buy foreign beef, both from patriotic motives and from a belief that the British is better. However, this writer has sampled all the brands, and is unable to perceive that the American is not equal to the best.

FOREIGN BEEF IN GREAT BRITAIN.

The wholesale price of beef in this country, according to the last published quotations on January 26, 1910, were as follows, per eight pounds: Scotch, $1 to $1.17; English, and American killed in England, 93 cents to $1. American refrigerated: Hind quarters, 93 cents to $1.05; fore quarters, 64 to 66 cents. River Plate: Chilled, hind

quarters, 73 to 85 cents; fore quarters, 56 cents; frozen, hind quarters, 48 to 52 cents; fore quarters, 44 to 46 cents. Prices of British cattle and of American cattle slaughtered here are not given by quarters in the wholesale tables. Importations of live cattle from the River Plate region are prohibited.

Local retail dealers in American refrigerated beef say that the wholesale price is slightly higher than a year ago, though they have not advanced their prices, which, however, they advanced two to four cents, two years ago, above the prices ruling for several preceding years.

Seven-tenths of the beef consumed in Great Britain is home product. Statistics furnished this consulate showing the beef imported to this Kingdom each year, beginning with 1903, are suggestive. The number of American live cattle imported in 1903 was 301,757, and in 1905, 414,906; the imports then steadily declined to 205,450 in 1909. Canada supplied 113,583 in 1909, Canadian contributions declining since 1903 in practically the same ratio as that of the United States. The total imports into the Kingdom in 1909 were 321,341, nearly all coming from North America. Yet the number of British cattle did not increase during those years. The deficiency was supplied by imports of refrigerated and frozen beef, chiefly from the Western Hemisphere, which increased from 465,875,872 pounds in 1903 to 687,804,432 pounds in 1909. The imports from the United States fell from 301,719,040 pounds in 1903 to 95,962,160 pounds in 1909. Australasia sent 96,985,840 pounds in 1909, having nearly quadrupled its contribution since 1903. Except what is credited to "other countries" (9,215,584 pounds), the rest of the vast total of imported chilled and frozen beef came from the River Plate region, appearing as Argentine and Uruguay in the statistics quoted, which do not give separate figures for the two countries. The imports of chilled and frozen beef from that region rose from 129,047,632 pounds in 1903 to 485,640,848 pounds in 1909.

The low price of the South American beef, appealing to the working classes in this country, no doubt accounts in a large degree for its increasing imports. Scarcity of American beef may be another cause, but it is not manifest in this market. Shops devoted to River Plate beef have recently opened in this city and seem to do a thriving business.

LONDON.

SHIPMENTS OF CHINESE FROZEN PORK AND GAME.

Consul-General John L. Griffiths reports that there have been two further shipments of frozen Chinese pork and game to Europe, arriving in London on January 20 and 24, his particulars being as follows:

Of the 3,647 carcasses of pork which composed the first shipment 100 carcasses were landed at London and put into cold storage. It is stated that at the present time (February 10) they are in a bad condition. The remainder of this shipment is, I am informed, on its way to Liverpool, the steamer having left London on February 5 for Antwerp, with the intention of proceeding thence to Liverpool.

Some mutton and beef contained in the second shipment has been transhipped to Riga, some of the frozen pork has been sent to Liverpool, while the balance of the shipment was unloaded in London.

The London Times says that the medical officer of the Port of London has required exportation of over 6,000 carcasses of frozen Chinese pork which arrived in London, and that the local government board have approved of his action.

It will be thus seen, confirmatory of the previous report sent from this consulate-general, that frozen Chinese pork has up to this time met with practically no favor whatever in the English market.

BIRMINGHAM.

RETAIL PRICES OF BEEF, PORK, AND MUTTON.

In view of the discussion of the prices of meats in the United States, Consul Albert Halstead furnishes the following report covering the retail prices of meat in Birmingham:

The following prices were obtained from one of Birmingham's best butchers long established and with high-class custom. The prices are at retail for the best English beef killed in his own slaughterhouses. In considering them it should be noted that this butcher trims his meat close, leaving a very short tail to the equivalent of the American porterhouse steak, and cutting away most of the useless fat or suet, but leaving a little more bone than is done in the United States, while chops are similarly closely trimmed, and ribs of beef are short. The poorer cuts of meat find ready sale among poor purchasers, so that he has a demand for every part of every animal.

In considering the prices of meat it should be stated that the average English purchaser prefers the round of beef, regarding it as making a better steak than the porterhouse or sirloin, while the hipbone steak is considered choicest. There is, therefore, a great market here for rounds of beef and cuts not popular in the United States, though excellent if properly cooked. Having a market for all cuts, those, such as sirloin and ribs of beef which are in such demand in the United States, are obtainable at fair prices. In Birmingham, though meat is cut somewhat differently than in the United States, the average butcher trims it more closely than in most other English cities.

In Cornwall and Somersetshire, and in most agricultural communities without large industrial population, in cutting sirloin steaks the tail is left very long, taking up the part that in the United States is used to make flank steaks, while ribs of beef are equally long. The same is true of chops and cutlets of mutton.

AMERICAN BEEF NOW TOO DEAR FOR THE MARKET.

In Birmingham meat prices are lower, it is said, than in most other English towns, because competition is keener, and not a little beef is dumped here from other sections. At the same time the consumption of meat is higher proportionately than in other cities. Again, while much foreign beef and mutton is sold here little of it comes from the United States. A butcher who manages the Birmingham shops of a large company, having branches all over the Kingdom,

where foreign beef is chiefly sold, states that American beef prices are at present too high for that meat to be sold profitably here. There is, however, a considerable number of American cattle brought over and killed at Birkenhead.

For English beef of poor quality, technically called "rough English," tough, stringy meat, higher prices are paid than for Argentine beef, though the latter is far better and more appetizing. The fact that it is foreign and chilled makes this better foreign beef less popular, and it illustrates the English preference for everything of domestic origin, a prejudice varying for all commodities offered for sale, and that is particularly pronounced in Birmingham.

MEAT PRICES.

The following statement shows the prices on January 1, 1910, at retail in the high-class shop mentioned:

Description.	Per pound.	Description.	Per pound.
BEEF.		MUTTON—continued.	
Sirloin, including the tenderloin, sold almost invariably for roasting and not in porterhouse steaks	$0.20	Loins, whole	$0.21
Ribs of beef (chine)	.20	Chops (the American loin chops)	.26
Top side of the round or silver side of the foreleg	.18	Chops, rib (called cutlets in England)	.24
Rump steak	.17	Neck	.18
Hitch bone or lower part of the round	.18	Breast, the lower end of the ribs	.10
Shoulder	.16	Liver	.16
Neck (stickings) and brisket (breast)	.18	VEAL.	
Ribs for boiling (the heavier and coarser ribs which form the chest)	.12	Leg	.18
Hip-bone steak (the best part of the rump and the most popular steak)	.26	Fillet or tenderloin	.21
Stew steak, without bone	.18	Shoulder	.18
Gravy beef, which is the lower part of the leg	.16	Oyster (boned shoulder)	.19
Soup meat (shin with bone)	.10	Neck and breast	.16
Suet	.16	Cutlet	.26
Liver	.10	Liver	.18
MUTTON.		FRESH PORK.	
Leg	.20	Leg, and loin	.18
Shoulder	.18	Neck	.17
		Belly	.16
		Head	.08
		Chawls	.14

FOREIGN AND ENGLISH MEAT SOLD TO THE POOR.

The following are the retail prices, per pound of beef, sold to the poor by butchers during the week ending December 31, 1909, both English and foreign meat. The foreign beef comes from Argentina and the mutton from Argentina and Australia, the Argentine being a little preferred:

Description.	English.	Foreign.	Description.	English.	Foreign.
BEEF.	*Cents.*	*Cents.*	MUTTON.	*Cents.*	*Cents.*
Sirloin	12	10 to 11	Leg	12 to 20	9 to 10
Gravy beef (the poorest part of the leg)	12 to 16	8	Shoulder	11 to 17	9
Round steak	14 to 18	10 to 11	Neck	9 to 17	7
Ribs of beef	12 to 18	9 to 10	Chops, loin and ribs	10 to 24	10 to 12
Neck, cut into pieces	8 to 14	7	Breast	8 to 10	7

Very little foreign pork now comes into this market, but most of what arrives is from the United States, and sells at 14 to 16 cents per pound for a joint, while the best English, cut from a small pig averaging 60 pounds, costs 17 to 18 cents.

RECEIPTS AND PRICES OF AMERICAN BACON FOR SEVENTEEN YEARS.

Consul Halstead also furnishes the following abstract of an article from an English technical publication, giving the receipts of American bacon in England and its average prices during the years 1893–1909:

Year.	Weekly receipts.	Average price.	Year.	Weekly receipts.	Average price.
	Boxes.	*Per 112 pounds.*		*Boxes.*	*Per 112 pounds.*
1893	14,000	$13.87	1902	20,000	$13.62
1894	16,000	10.58	1903	18,500	14.45
1895	17,500	9.00	1904	18,500	10.78
1896	18,000	7.45	1905	20,000	10.46
1897	23,000	7.96	1906	18,500	12.65
1898	23,000	7.94	1907	18,500	12.43
1899	23,000	7.96	1908	18,500	11.43
1900	24,000	10.26	1909	13,000	14.98
1901	25,000	11.19			

A box weighs about 530 pounds, and may be reckoned to contain the bacon of five hogs. The price in 1893 was very high; 1902 was a year of very high prices, caused by the very small maize crop of 1901; 1909, the price advanced to $14.98, and we only received 13,000 boxes per week; 1910, the average number of receipts since January 1 has been 9,000 boxes per week, which is only half the weekly receipts for the seventeen years, and 4,000 boxes less than in 1909.

SPAIN.

IMPORTS FROM UNITED STATES MAINLY CASINGS AND HAMS.

Consul-General Frank D. Hill, of Barcelona, states that comparatively little meat is eaten in Spain, the lower classes consuming almost none. He discusses various aspects of the meat trade:

Meat products, such as lard, etc., find small favor in the Spanish kitchen. Sausages in considerable variety are prepared in Spain, and their cheapness and the high custom duties make outside competition impossible. The sausage industry in Spain calls for large quantities of casings, most of which are supplied by the United States. In 1907, the latest figures available, the total imports of casings were valued at $605,000, of which $364,000 worth came from the United States, $76,000 from Argentina, $50,000 from Germany, and about $44,000 each from England and France.

Besides casings the only foreign meat products to find a market in Spain are those from pork. Hams, salt pork, bacon, and lard pay a duty of 50 gold pesetas ($9.65) per 100 kilos (220 pounds). The market for hams is fair. Several American brands sell fairly well in Spain, as evidenced by signs and posters in the numerous "colmados" (stores where canned goods, wines, candies, etc., are sold). English hams are also found, although American packers seem to have a

good lead. Bacon finds a limited market; only the coarser grades are eaten, never alone, but always in stews or "cocido" (a dish consisting of boiled peas, potatoes, cabbage, beef, bacon, chicken, sausage, etc.).

VALUE OF IMPORTS OF PORK PRODUCTS.

Lard is little used, being replaced in the Spanish kitchen by olive oil. In the Spanish custom-house statistics for 1907 all pork products are grouped under one general heading, which includes hams, salt pork, bacon, and lard. It is safe to assume, however, that hams formed much the greater part of the imports, which were from the United States, $240,060 in value; Great Britain, $73,920; Argentine Republic, $34,670; Belgium, $7,920; other countries, $4,580; total, $361,150.

Almost no canned beef or mutton finds its way into Spain. Only $750 worth was imported in 1907, chiefly from the United States and England. Formerly high duties kept these products out. Duty at present is 25 gold pesetas ($4.825) per 100 kilos (220 pounds).

High duties and local competition on fancy meat products, sausage, mince-meat, etc., make the market poor. Duty paid by this class is 1.50 pesetas gold ($0.29) per kilo (2.2 pounds). The exact imports are not known, as mustard, sauces, and miscellaneous preserves are included with these products under one head in Spanish statistics. Total imports of the group were, in 1907, $57,550, of which $5,630 were from the United States.

It is thus seen that American meat products get the greater share of the limited Spanish market, as over half of the sausage casings imported in 1907 came from the United States, and two-thirds of the pork products. Meat products destined for shipment to Spain must be accompanied by a health certificate in addition to the usual certificate of origin. Both of these certificates are to be obtained at the nearest Spanish consular office.

ARGENTINA.

FROZEN LAMB EXPORTS FROM ARGENTINA, CHILE, AND URUGUAY.

Consul-General R. M. Bartleman, of Buenos Aires, reports that while the frozen-lamb export trade of Argentina, Chile, and Uruguay has greatly increased during the last three years, it has been in varying proportions between the three countries, as will be seen from the following table, showing number of carcasses:

	1907.	1908.	1909.	Total.
Argentina	114,964	359,388	537,135	1,011,487
Chile	24,951	76,121	201,486	302,558
Uruguay	.....	2,368	19,167	21,535
Total	139,915	438,077	757,788	1,335,580

The development of the sheep-raising industry in the Argentine territories of Tierra del Fuego, Santa Cruz, and the Chubut will probably increase Argentina's exports of frozen lamb within the next few years, as plans are on foot for the erection of several new freezing establishments in those territories.

THE FISH INDUSTRY.

CANADA.

INCREASED EXPORTS FROM MANITOBA TO THE UNITED STATES.

Consul-General John E. Jones, of Winnipeg, furnishes the following information concerning the increased exports of fish from that part of Canada to the United States:

Whether or not Canadian fish have been requisitioned to offset the high prices of meat in the United States, the exports of fish from Manitoba thereto for the months of January and February, 1910, amounted to $226,943, against an export of $170,860 for the entire year 1909. While frozen fish have always been a large item of the Manitoba export trade to the United States, the shipments thus far during 1910 have been the largest on record.

Heretofore, the States of Montana, North Dakota, Minnesota, and Michigan have received the bulk of the fish; this year, however, Canadian fish have gone as far south as Baltimore, while the principal States of the Middle West have received large consignments. Whitefish, the principal fish exported, averaged 4½ cents per pound in 1909, but there was a marked increase this year in the demand, and the price was advanced to 7 cents per pound. The feature of this year's fish business in this section of western Canada has been the active demand for all grades and varieties of fish, the exports including the commonest varieties of the winter catch, even mullets, at 2 cents per pound, enjoying a large sale.

AMERICAN DEMAND DEPLETING THE FISHERIES.

In connection with the enormous quantities of fish shipped to the United States from western Canada, the depletion of the lakes and rivers has been so marked that the Dominion Fisheries Commission recently investigated the subject and submitted a voluminous report. It sets forth the belief that all the lakes of Manitoba had been overfished, that some of the more valuable species, such as whitefish and pickerel, had decreased very seriously in size and abundance, and that sturgeon was on the point of extinction. It sets forth that the evidence showed conclusively that the Manitoba fisheries had been unduly controlled by foreign fish operators, who have dictated the prices of fish and secured the major profits; that the better grades of fish were sent to the United States, which curtailed the home supply; and urged, in view of the rapidly increasing population, that every effort should be made to restore the fisheries. It is urged that summer fishing on Lakes Winnipegosis and Manitoba be prohibited, and that on and after January 1, 1911, the closed season be applied, with a view to restoring the pickerel and whitefish.]A copy of the Dominion interim fisheries report, transmitted by Consul-General Jones, is on file in the Bureau of Manufactures.]

FRENCH STEAM-TRAWLERS ON THE GRAND BANKS.

Consul Douglas Jenkins, of St. Pierre, reports that while 29 French steam trawlers engaged in fishing on the Newfoundland Banks in 1909, more than double the number engaged in 1908, the catch thereby was disappointing, being less than the average catch of the St. Pierre sailing vessels. The lack of familiarity with the fishing

grounds is thought to be the chief reason for the unsatisfactory catch of the steam trawlers, for even the St. Pierre shipowners recognize the fact that steam trawling will play an important part in the fresh-fish industry. A translation of an article entitled "French Steam Trawlers and the Colonial Fisheries," transmitted by Consul Jenkins, is on file in the Bureau of Manufactures.

CANADIAN FISH MERGER.

FOUR LARGE NOVA SCOTIA FIRMS FORM COMBINATION.

Deputy Consul-General Ross J. Hazeltine writes from Halifax that American fish markets will be interested in knowing that an agreement has been reached under which four of the largest fish-exporting firms of Nova Scotia have formed a merger. He says:

For some months negotiations relative to this merger have been pending and it is now authoritatively stated that an agreement has been reached whereby the following firms have come to a final agreement: (1) The C. Robin Collas Company (Limited) of Jersey, with head offices at Halifax and some 13 branches, many of them on the Gaspe coast; (2) The A. G. Jones & Co., Halifax; (3) Zwicker & Co., Lunenburg; (4) The Atlantic Fish Company (Limited) of Lunenburg, with branches at other points.

These four companies represent a large proportion of the fish-exporting business of the Gaspe and Nova Scotia coasts. There are, however, several large establishments not included in the merger. The capitalization of the new corporation is not yet known, nor has the new name of the concern been decided upon.

NORWAY.

THE UNITED STATES IS A MARKET FOR ITS FISH PRODUCTS.

Consul P. E. Taylor, of Stavanger, furnishes a translation of an article, from a Philadelphia correspondent to a local newspaper, concerning the failure of Norwegian exporters to secure their proper share in the fish trade of the United States, which reads, in part, as follows:

If Norwegian fish exporters have failed to realize what they expected from American advertisements the failure is due to themselves. If these would properly combine, learn the conditions which prevail in the American market, and then adopt the American system of advertising, they would reach results which would fully justify all outlay of money and time. Good fresh fish is so dear in the United States that the working people can not afford the luxury. Why, then, asks the Norwegian exporter, is there not more of a ready sale for Norwegian canned fish? Simply because it is unknown, outside a very narrow circle. If Norwegian fish exporters would properly exploit the American market there would be no fear of the profitable results of such exploitation. The fish products referred to by the correspondent are canned goods of various kinds, especially sardines and fish balls.

RUSSIA.

PRODUCTION INADEQUATE TO SUPPLY HOME REQUIREMENTS.

The following report, covering the fisheries of Russia, is furnished by Consul-General John H. Snodgrass, of Moscow:

Although Russia is one of the greatest sea-food producing countries its supply falls considerably short of meeting the requirements

of its population, and while the annual yield of its fisheries amount to 1,206,000,000 pounds of sea food, valued at $36,050,000, it is forced to import 405,000,000 pounds, valued at $9,939,500, per annum, viz: Cod, about 9,000,000 pounds, valued at $1,184,500; herring, about 396,000,000 pounds, valued at $8,755,000, against an annual export of 79,200,000 pounds of caviar, fish, and crawfish, valued at $2,729,000; thus paying to foreign countries for fish $7,210,500 in excess of its fish exports.

The population of the Empire consumes not less than 1,620,000,000 pounds of home-caught and imported fish, valued at $43,260,000. Reckoning the population at 140,000,000, the average yearly consumption of fish per capita is about 11.5 pounds.

Considering that Russia occupies nearly one-sixth of the globe, the insignificant catch and small consumption show the extraordinary scarcity of fish and the necessity for special steps to be taken in order to increase the stock in Russian waters. So far very little has been done to augment the supply of fish, either in the rivers or inland seas, or to prevent their decimation from year to year.

HABITAT OF RUSSIAN FISHES.

The following statement shows the waters wherein the fish are caught:

Sturgeon and carp in the Caspian, Aral, and Black seas; salmon in northern parts of European and Asiatic Russia, Lakes Ladoga, Onega, and Baikal in the Far East, and in the Black and Caspian seas; herring in the Caspian and Black seas.

Salt-water fish: Cod, flounders, and some herring in the Baltic and White seas and Arctic Ocean; mackerel, mullet, sardels, anchovy, barbel, and chub, in the Black Sea.

Oysters are confined exclusively to the Black Sea, and sea cole (Laminaria sacharina) and trepang to the waters of the Far East.

Mammals are found in the following waters: Seal (Phoca vitulina) in the Black, White, and Baltic seas, Arctic Ocean, Ladoga and Baikal lakes; walrus, seal (Phoca barbata), and white grampus in the Arctic Ocean and White Sea; beavers and seal in the Far East.

FISHERIES OF EUROPEAN RUSSIA.

The waters of the Caspian Sea and the rivers emptying therein particularly abound in fish, the yield of sturgeon being not less than 54,000,000 pounds, of which 28,800,000 pounds are caught in the Caspian-Volga, 11,520,000 pounds in the Caspian-Kura; 8,640,000 pounds in the South Caspian and Ural; 720,000 pounds in the Daghestan region; 1,980,000 pounds in the Volga; 2,340,000 pounds in all other waters.

Sea and river herring: Caspian Sea and Volga, 72,000,000 pounds; Daghestan waters, 54,000,000 pounds; Caspian-Kura, 46,800,000 pounds; Terek River, 1,188,000 pounds; total catch, 173,988,000 pounds. Twenty years ago herring were as a rule caught in the Caspian-Volga district, the yearly yield running from 252,000,000 to 270,000,000 pounds. At present the yield has considerably decreased, and since the end of the last century the catch has gone over to the western shore of the Caspian Sea, the Daghestan waters, and the Caspian-Kura district. The opening up of new waters did not result

in an increase of the catch, but in a considerable decrease, and now does not reach 66 per cent of the former yield.

Fresh and pressed caviar of sturgeon amounts to about 3,150,000 pounds, produced as follows: Caspian and Volga, 1,206,000 pounds; Caspian-Kura, 1,052,000 pounds; the remainder in the South Caspian, Ural, and Terek rivers, and Daghestan waters. The quantity of caviar produced amounts generally to one-tenth the weight of the fish.

Small fish—roach, crap, bream, razor fish, sandre, pike, etc.: Caspian-Volga, 432,000,000 pounds; Ural, 72,000,000 pounds; Caspian-Kura, 36,000,000 pounds; Volga and tributaries, 1,800,000 pounds; South Caspian, 1,080,000 pounds; Caspian and Terek, 7,200,000 pounds; Daghestan region, 900,000 pounds. The annual yield of roe from small fish in the Caspian-Volga is about 3,600,000 pounds, with an equal quantity of sealskins and blubber.

CATCH IN EUROPEAN RUSSIA.

The total catch in the Caspian district aggregates $24,526,875 viz: Caspian-Volga, $16,480,000; Caspian-Kura, $3,090,000; Ural, $2,317,-500; Daghestan region, $875,500; South Caspian, $772,500; Volga, $656,625; Caspian-Terek, $334,750.

The yearly catch in the Baltic region amounts to about 82,440,000 pounds, valued at $4,219,050, viz: Salt-water fish—pilchards ($412,-000), sprat, flounders, cod, and pike; fresh-water fish—salmon, eel, lamprey, smelt, gwiniad, sandre, perch, and pike.

The principal catch in Pskov Lake, consists of smelt; very valuable gwiniads, propagated by the Dorpat branch of the Government Fish Breeding Preserves at Nikolsk; sea eel, sandre, bass, bream, etc. Ladoga and Onega lakes yield salmon, eelpout, gwiniad, smelt, umbra, sea eel, sandre, and a species of carp.

The White Sea yields 2,700,000 pounds, valued at $108,150, consisting of smelt, sea eel, and bream.

The Azov and Black seas come next to the Baltic waters in the value of fish caught. In reality the fishing industry is only developing in this district, though in the Dnieper, one of the principal tributaries of the Black Sea, it has entirely ceased. The abundance of fish in the Sea of Azov and its tributaries, which astounded the explorers in the middle of the last century, is now almost exhausted. The species of fish in the Azov and Black seas are the same as those in the Caspian, with which the Black Sea at one time was connected, and consists of sturgeon, sterlet, and a variety of small fish, principally carp and perch. A considerable quantity of herring is caught in the Sea of Azov and in the Don, the gulf of Kertch, in the Caspian, and in the Danube-Black Sea district. Mullet, barbel, and chub are also caught in these waters, and large quantities of oysters are dredged on the coasts of the Caucasus and Crimea. The Azov-Don leads with $708,125 per year; the excess over that of the Azov-Kuban district being due to the large catch of herring in the Don, 4,320,000 pounds per year, while only 252,000 pounds are caught in the Kuban, valued at $566,500. The value of the catches in the other districts are as follows: Crimean coast, $381,100; Caucasian coast, $198,275; Black Sea and Danube, $154,500; Minsk, $51,500; total yield of the Black and Azov seas, $2,060,000.

Large numbers of dolphins are annually caught in nets, for blubber and oil, say 720,000 pounds, valued at $41,000.

Cod, tomcod, salmon, etc., are caught in the Arctic Ocean and White Sea in large quantities. Seal, ice bears, and white grampus are hunted in the Arctic waters, and killed yearly to the value of $51,500. The total yield of the Arctic Ocean which washes the coasts of European Russia, along the shores of the Archangel and Vologda governments, including the animals mentioned, aggregate 41,400,000 pounds, valued at $592,500.

The catch in the Ural and Obi rivers amounts to about 1,080,000 pounds, worth $23,175.

The total yield of fish and sea animals in European Russia aggregates 1,041,300,000 pounds, worth $31,790,950.

CATCH IN ASIATIC RUSSIA.

The catch in the Arctic Ocean along the Siberian coast amounts to 40,860,000 pounds, worth $1,815,225. The yield of the Amur district reaches 80,280,000 pounds, valued at $1,442,000. These figures do not include the several million pounds of fish consumed by the local population and their dogs.

In the Aral Sea species of sturgeon and carp are caught, the yield being nearly 25,920,000 pounds, worth about $515,000. The Akmolinsk, Semipalatinsk, and Semiretchensk districts yield about 9,000,000 pounds, valued at $226,600.

The total yearly catch of fish marketed in Asiatic Russia aggregates about 156,060,000 pounds, worth nearly $3,998,825. The catch in Asiatic Russia increases in proportion with the population growth and development of fishing in Siberia, following the construction of the Siberian railway, which opened up new markets in European Russia for the valuable Siberian fish. A decrease in the yield is only noticed in Lake Baikal, where the catch of salmon is diminishing, and in the Aral Sea, where the catch of sturgeon is falling off, the latter due to the shallowing of the mouth of the Amu-Daria River.

AUSTRALIA.

VALUE OF IMPORTED FISH EXCEEDS THE EARNINGS OF HOME FISHERMEN.

Consul John F. Jewell, of Melbourne, furnishes the following information concerning the result of fishing experiments conducted in Australian waters:

In a recent report on government fishing experiments the Director of Fisheries says:

> The backward state of the Australian fisheries is very apparent, and it shows that an industry, which in many countries provides employment and cheap food for a large section of the working classes, is, in Australia, lying dormant and unattended. Further illustration is in the fact that the value of imported fish into Australia exceeds considerably the earnings of the local fishermen. This is all the more regrettable, as in the semitropical climate of this island continent fish ought to be a common and cheap commodity for rich and poor.

The reasons given in the report for the undeveloped condition of the fisheries are as follows: (1) The number of fishermen is small and their gear limited; (2) the Australians have become meat eaters, meat three times a day being the rule in the cities; (3) limitation of demand for fish by artificially high prices, brought about by mid-

dlemen and retailers, who, between them, make fish much more expensive than meat.

The Commonwealth government has resolved to take up the question of the deep-sea fisheries in a thorough manner, and by the application of modern methods and experience furnish a comprehensive illustration as to what might be obtained commercially therefrom. [A printed copy of the fishery report, transmitted by Consul Jewell, is on file in the Bureau of Manufactures.]

STRAITS SETTLEMENTS.

CONSUMPTION OF SHARK FINS AT SINGAPORE—MAN-EATING FISH.

Consul-General James T. DuBois, of Singapore, writes as follows concerning the use of shark fins in the Straits Settlements and the dread of this fish in Malaysia:

Singapore has an important shark-fin trade which supplies the local 200,000 Chinese with this oriental delicacy. The $157,753 worth imported in 1908 came from Borneo, Penang, Sarawak, Madras, Ceylon, Celebes, and the Coromendel coast. Over one-half of this amount was reexported to China.

The Malay shark, called the "Ikan Yu," is the one most dreaded by the natives. During the terrible disaster of the French steamer La Seyne from its collision with the British ship Onda in the Straits of Rhio last November, many of the 90 passengers lost were, as soon as they reached the waters of the straits, seized by the sharks and dragged beneath the surface to be devoured by these fierce Malayan fish, which are especially feared by the native fishers and pearl divers. Seventeen species inhabit the Far Eastern seas, some of them attaining a length of 25 feet. It is reported that a black-fin shark was captured some time since whose liver weighed 250 pounds. The largest is the basking shark, which ranges from the Cape of Good Hope to Ceylon, and often exceeds 50 feet in length. This fish has small teeth and is not considered as dangerous as the monsters of the Malayan Archipelago.

PLUM JELLY IN SERVIA.

HEAVY DECLINE IN PRICES IN THE EXPORT TRADE.

Consul Robert S. S. Bergh writes as follows from Belgrade relative to the low prices at which Servian plum jelly is offered for export:

The Servian plum crop of 1909 was small, and practically no plum jelly (pekmes) was made. However, a large quantity was left over from 1908, for which the owners asked high prices, so that Germany, the chief buyer of Servian plum jelly, found it unprofitable to import it, securing instead marmalade and jellies from Holland. In order to sell their stocks Servian exporters have reduced the prices to $4.80 to $5.80 per 100 kilos (220 pounds), including barrels, instead of $10.60 to $11.60 asked four months previous. The average yearly production of plum jelly is 15,000 to 20,000 tons. The present stocks in the country are estimated at 1,800 to 2,000 tons. The jelly is packed in barrels of about 168 kilos (370 pounds) net. The exports of Servian plum jelly to the United States in 1908 were valued at $20,750, and in 1909 at $12,390. [Servian exporters of plum jelly are listed at the Bureau of Manufacturers.]

WINE PRODUCTION.

CHILE.

DEVELOPING INDUSTRY CALLS FOR AMERICAN STAVES.

Consul Alfred A. Winslow, of Valparaiso, referring to the fact that the cultivation of grapes and the making of wine in Chile have become very important industries, says:

At the beginning of 1909 there were 145,894 acres of vineyards in Chile, of which 47,103 were irrigated. These vineyards contained 254,086,859 native vines and 53,173,715 vines of French origin and produced, during 1908, 30,472,333 gallons of wine and 974,092 gallons of spirituous liquors. Chilean wine is said to measure well up to the average French and Spanish wines. When 1 year old it sells at wholesale usually at 8 to 9 cents per gallon, while 3-year-old wine sells at from 22 to 28 cents per gallon.

Until recently wines in Chile have been aged only in the old way. At present one of the largest producers is putting in an up-to-date aging installation, which is expected to produce wine in a few weeks equal to old wine of several years. The most of the wine vaults are made by digging out the earth to a depth of 8 or 10 feet and covering this with a thick layer of earth, supported by timbers. Here the wine is kept in tierces, one above the other, so arranged that it can be easily tested and looked after. Formerly these tierces were made from native oak, but it has been found that American oak makes a much better barrel for this use, and there is now quite a demand for staves from the United States. These come in logs or bolts about 10 feet long and are cut to suit on arrival. So far two firms have been shipping most of the stave timber from New York, each having branches in Valparaiso and other cities of Chile.

During 1908 wine to the value of $135,153 was brought into Chile, of which the United States supplied none. During the same time wine to the value of $63,741 was exported.

GERMANY.

LAST YEAR'S BAVARIAN WINE YIELD HALF USUAL AMOUNT.

Consul George Nicholas Ifft, of Nuremberg, writes as follows of the wine crop for 1909 of the Bavarian vineyards:

The year 1909 was very unfavorable for the wine industry in Bavaria. A late, cold spring and a wet, cold summer seriously affected the vines, and the result was but half the normal crop. The acreage of the vineyards, the wine production, and the total value of the latter for the Kingdom, as compared with the year 1908, was as follows:

	1908.			1909.		
	Acreage.	Gallons.	Value.	Acreage.	Gallons.	Value.
White wine	48,992	60,250,500	$5,445,850	47,513	28,435,400	$2,285,510
Red wine	5,465	9,042,700	747,664	5,412	6,276,700	329,027
Total	54,457	69,293,200	6,193,514	52,925	34,712,100	2,614,537

The 1909 wine production is practically just one-half in quantity and less than one-half in value of that of the preceding year. The principal wine districts of Bavaria are the Palatinate, on the left

bank of the Rhine, and Lower Franconia, the district around Würzburg, in the Valley of the Main, which latter is largely in this consular district. The figures which follow, giving the wine production of these districts for 1908 and 1909, as compared with the average productions for the ten years preceding, are of especial interest:

Provinces.	Gallons.			Value.		
	1908.	1909.	Average.	1908.	1909.	Average.
The Palatinate	61,181,300	29,663,200	67,787,000	$5,391,525	$2,169,010	$4,056,924
Lower Franconia	6,997,700	4,490,500	10,160,600	701,143	402,388	710,670

The wine crop of the Palatinate for 1909 is thus seen to be not only much below that of 1908, but also far below the average for the preceding ten years. Only once during the past ten years, in 1906, has there been a smaller crop than that of last year. Lower Franconia for 1909 falls by more than a third under the wine crop of 1908, and is less than one-half the average for the past ten years, but the crop last year, even at that, was better than in 1902, 1906, or 1907. Middle Franconia and Suabia grew the balance of the Bavarian wine, slightly over 500,000 gallons in 1909, which is also only about one-half the normal crop.

FRANCE.

DECREASED YIELD, BUT INCREASED VALUATION OF WINE.

Interesting statistics concerning the wine crop of France and her nearest colonies are furnished by Consul-General A. Gaulin, of Marseilles, who says:

According to the official statistics, based upon declarations made by the interested parties in compliance with the law of June 29, 1907, the production of wine in France (not including Corsica and Algeria) during the year 1909 amounted to 1,438,296,493 gallons, which with the stocks on hand, 175,818,510 gallons, makes a total of 1,614,214,744 gallons. In 1908 the crop amounted to 1,599,424,295 gallons, and the stocks to 249,791,878 gallons, or a total of 1,849,215,703 gallons. The quantity of wine on hand at the beginning of the season was therefore inferior to that of the previous season by 235,001,429 gallons.

In Algeria the crop amounted to 217,378,450 gallons, and the existing stocks to 6,525,484 gallons, making a total available supply of 223,903,944 gallons. The vintage of Corsica is estimated at 7,041,583 gallons.

The extent of the French vineyards in 1909 was 4,016,996 acres, or 71,010 acres less than in 1908. The average yield per hectare (2.47 acres) was 872 gallons, against 977 gallons during the previous year. The Algerian crop shows an average yield of 1,743 gallons per hectare.

There are 54 departments reporting a decrease as compared with 1908, the Eastern, Burgundy, and Southern districts suffering the heaviest losses. Among the 22 departments showing an increased production, the Gironde (Bordeaux district) and the departments of Maine-et-Loire, Indre-et-Loire, and Loir-et-Cher made the most notable gains. Six departments along the Mediterranean (Pyrenees Orientales, Aude, Herault, Gard, Bouches-du-Rhone, and Var) pro-

duced more than half of the metropolitan crop, and 45.1 per cent of the national production, including Algeria. The southwestern (or Bordeaux and Cognac) district furnished 19.4 per cent of the total crop; the Burgundy and Beaujolais districts, 10.4 per cent; the Loire district, 5.8 per cent; other departments, 7.1 per cent, Algeria, 12.2 per cent.

ESTIMATES OF LAST YEAR'S YIELD—IMPORTS AND EXPORTS.

The value of the crop of 1909 is estimated at $192,936,689, against $186,317,550 in 1908, these figures being based upon the prices realized by the growers. In this total the wines of superior quality, i. e., those which sold for from more than 50 francs per hectoliter ($9.65 per 26.417 gallons), at the vineyards, represented $14,825,285, or a quantity of 23,551,958 gallons. As regards alcoholic strength the crop is subdivided as follows: Wines of less than 11 degrees, 1,203,460,033 gallons; of 11 degrees, 157,572,824 gallons; of more than 11 degrees, 77,264,106 gallons.

France imported during the past year 177,163,804 gallons of wine, and exported 72,189,597 gallons. About 90 per cent of the imports came from Algeria, 7 per cent from Spain, 1.5 per cent from Tunis, 0.5 per cent from Italy, and the remainder from various countries. The average importations during the decade 1899–1908 were 154,460,469 gallons and the average exportations 55,053,128 gallons.

HOLLAND GIN INDUSTRY.

OUTPUT OF THE SCHIEDAM DISTILLERIES IS STEADILY DECREASING.

The following information concerning the manufacture of and trade in Holland gin is furnished by Consular Agent A. C. Nelson, of Schiedam:

The largest number of distilleries ever operated in any one year at Schiedam was 388, while, according to its chamber of commerce, the number in operation in 1908 was 112. It must be remembered, however, that many large steam distilleries have come into operation and that the production of gin has not decreased in degree with the decrease in the number of distilleries. The largest production of gin in Schiedam in any single year was 12,507,109 gallons in 1890. In 1904 the production was only 7,754,554 gallons, since which it has slowly but steadily declined, year by year, to 1908, the latest year for which figures are available, when it was 6,868,061 gallons.

About twenty years ago the Dutch sugar manufacturers found it to their benefit to produce alcohol from molasses, on account of a change then made in the duty levied on sugar, and a cheaper alcohol was brought on the market. The distillers improved upon this opportunity at once and mixed this cheaper product with the malt wine when the strength of the latter had to be raised. Little by little, without knowing it, the public, especially the gin-drinking natives in Africa, became used to drinking gin which, to a great extent, consisted of molasses alcohol and water. Naturally enough this method of production has to a great extent destroyed the public taste for the pure gin, as it was made in the olden times.

The Government has recently increased the excise duty on gin, which is now $36 per hectoliter (26.54 gallons), which, it is stated, presses heavily on the distillers.

According to the Schiedam Chamber of Commerce the quantities of grain brought by sea and river vessels to the Schiedam distilleries were as follows, in tons of 2,000 pounds: In 1906, 59,940; 1907, 57,280; 1908, 44,498. Thus the consumption of grain, as well as the production of alcohol, shows a steady decrease; nevertheless, the exports of gin have not decreased during the foregoing period. It is therefore safe to say that the molasses alcohol, produced elsewhere in Holland, is gaining ground every year.

The exports of gin to the United States were unusually large in 1909, although the new higher American tariff rate on Holland gin does not go into effect until August 7, 1910. The following statement shows the value of the exports of gin from Holland to the United States during the past two years:

Exported from—	1908.	1909.
Schiedam	$28,488	$56,924
Rotterdam	82,467	147,555
Amsterdam, including liqueurs	38,471	54,425
Total	149,421	258,504

HOW THE GENUINE DUTCH GIN IS MADE.

The manufacturer's first step is to try the samples of grain (barley and rye) which his broker offers him. In order to find out if the grain has sufficient germinating power, he turns the samples over to his malster, who "sets" them, or places them in water at a certain temperature. If the grain germinates sufficiently within a fixed time, it is considered good and is bought and brought to the malt floor, where it is placed in water in brick basins—in lukewarm water in winter. After sufficiently germinating it is scattered over a stone floor, where it is stirred now and then in order to further the growth. The utmost care is taken in keeping the right temperature. When the process of growing has reached the desired state the grain is brought to the malt kiln, where it is spread out on a steel-plated floor, in which are numerous small holes. Under this kiln floor a bright coke fire is kept burning, while over the floor there is a ventilator for leading away the dampness. The aim of this process is to kill at once the growing germ, and when this is done the grain has become "malt." A substance called "diastase" is formed of the albumen in the grain by this process; this diastase has the peculiar quality of being able to turn all the nutritive substances in the grain into sugar, when it is added to the mash. In reality the whole distilling process rests on this function, as it is this sugar which is changed into alcohol by later fermentations. The ready-made malt is now sent to a mill for rough grinding, generally to a modern steam mill, though many of the old picturesque Dutch windmills are still used for this purpose. Returned to the distillery, it is placed in the mash basin, where a mash is made of it by adding barley and rye flour and, as a rule, corn flour.

BY-PRODUCTS SECURED.

Now follows the fermentation, in order to start which a little quantity of the mash is placed in a tub, to which is added some beer yeast. The yeast, which is forming in this tub (the mother yeast) is later added to the other mash under continual stirring. After

some time the mixture will be in heavy fermentation, and as soon as the fermentation has settled the yeast is skimmed away, pressed dry, and turned over to the yeast dealer. The yeast is, consequently, the first by-product obtained by the distiller. After this first fermentation the mixture has become clearer and is now placed in a copper kettle, supplied with a copper helm and a copper serpentine. The serpentine is placed in a wooden cooling tub, which a steam pump is constantly keeping full of cold water. The mixture is brought to boiling in the kettle, and the distilling is begun. The liquor obtained from this first distillation is called "ruwnat" (rough wine) and has a strength of about 14 per cent alcohol.

What is left of the original mixture in the kettle forms the second by-product, which is utilized as food for cattle, which, as it has excellent nutritive qualities, is easily disposed of to the surrounding farmers. The second distillation is made in a still similarly constructed as that for the first distillation, only larger. This distillation is made of the results of eight first distillations ("ruwnats") and is called "fine still." The produce thereof, "enkelnat" (low wine), has a strength of about 25 per cent alcohol. Finally the product of two of these last operations is again conducted into another still, and this last distillation is the real gin, geneva or malt wine, which has a strength of 45.6 per cent. This is the ready-made product from the manufacturers and is sold by them to the packers or distributers (here called "distillateurs"), who again treat it in different ways, according to the demand of their customers, as detailed below.

The above is a true description of the manner in which all gin was formerly produced and of much gin yet produced. It is, in other words, the method which has made the Holland gin famous, and connoisseurs declare that malt wine made in this manner stands far above all others.

MODERN DISTILLERIES—GOVERNMENT CONTROL.

The modern age, with its machines and other technical inventions, has, however, also called forth a number of large factories here—the so-called steam distilleries—with a producing capacity of 10 to 20, or even 30, times that of the original smaller distilleries. As to quality of gin produced by different distilleries, opinions may vary, but it is conceded by everybody that the malt wine produced at Schiedam or in its immediate neighborhood is absolutely the best in existence, and this in turn is ascribed to the quality of water here, which accounts for the fact that nearly all the large distilleries in Holland get their moutwein (malt wine) in Schiedam.

The internal-revenue tax placed by the Government on gin is from nine to ten times the real value of the article, so of course it is necessary to keep a very strict control of the production. State officials keep informed of everything going on in the distilleries. They know not only how much grain is used at a distillation, but also what "trek"—the amount of gin—should result from the process. They keep track of the basins and kettles used each time, and the distillers know that they will be punished just as well if they get either too much or too little alcohol out of a distillation. Furthermore, the

state officials not only have the right, but it is their duty to inspect the distilleries at any time they wish.

PACKERS OR DISTRIBUTERS.

The malt wine is sold by the manufacturers to the packers or distributers, who do their buying at the exchange, mainly through brokers. Often the packers sell the malt wine to their customers as gin, without giving it any special treatment, but if a finer quality is demanded the malt wine is distilled once more, or perhaps several times, and thereby given the desired strength and flavor. The peculiar flavor of Holland gin is obtained by adding an extract of juniper berries. This flavor is piquant and preferred by most gin drinkers outside of Holland. In Ireland, for instance, triple-flavored gin is almost exclusively used, while the gin used here in Holland is lightly flavored, if at all.

For many years the distributers have kept a supply of old gin stored in barrels of about 186 gallons each. In the course of time this gin has obtained a fine, soft taste, and whenever they get a special order, at a special price, they fill it with this old gin in the following manner: Say they have a supply of 50 barrels of old gin; they tap from each barrel one-fiftieth of the order and then fill the barrel with new gin. In this way they are able always to have a fine quality of old gin on hand, as the small quantity of new gin added each time does not materially change the quality of the old gin in the barrels. While ordinary gin is perfectly colorless, the old gin has a faint yellow tint, and it is claimed that this fact has been utilized by some distributers, who color ordinary gin and pass it off for old gin. However, in a good and honest distillery all coloring matters are banished, even a barrel (rum or cognac barrels, for instance) which is in the least apt to color the gin is rejected, and in case such a barrel is discovered the cooper is immediately put to work to give it a thorough cleaning.

LIQUORS IN JAPAN.

DECREASING IMPORTS AND INCREASING EXPORTS OF BEVERAGES.

The following information concerning alcoholic liquors in Japan is furnished by Vice-Consul-General E. G. Babbitt, of Yokohama:

The imports of alcoholic liquors into Japan in 1906 amounted to $802,947; they now approximate $500,000. Beer brewing in Japan dates back some 20 years, when a brewery was established in Yokohama by foreigners to supply the foreign demand. Beer can now be found throughout Japan, and the output of the breweries not only supplies home demands, but leaves considerable quantities for export. Japanese now control the breweries, and foreign beer has been almost driven out of the market, the imports in 1908 amounting to only $8,000, including beer, ale, porter, and stout.

The exports of liquors from Japan in 1908 were as follows: Sake, $1,657,972; beer, $601,448; wines and all other liquors, $37,541; total, $2,296,961.

In an article showing the decreasing consumption of sake by the citizens of Tokyo, the Japan Advertiser gives the following figures: Consumed in 1908, 423,180 casks, against 583,978 casks in 1899.

BRANDY LABELS IN GERMANY.

IMITATION IN COMPETITION WITH PURE AMERICAN LIQUOR.

In answer to a California inquiry, Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning the probability of German imitation cognac being labeled brandy and thus come into competition with American pure brandy:

It is stated to me that there may be a legal necessity to designate imitation cognac in Germany in some special manner, and that the word "brandy" possibly may be used for that purpose. If there is any truth in this rumor, American brandy, a pure article under the American pure-food law, would be brought into competition in Germany with an imitation article made in Germany and styled "brandy" by its producers.

The German wine law of April 7, 1909, section 18, reads as follows:

Drinkable brandy, the alcohol of which has not been produced exclusively from wine, is not allowed to be designated as cognac in commercial intercourse.

Drinkable brandy which, in addition to cognac, contains also alcohol of another kind, may be designated as blended cognac (cognac verschnitt) if at least one-tenth of the alcohol is produced from wine.

Cognac and blended cognac must contain at least 38° of alcohol.

Drinkable brandy sold or offered for sale in bottles or similar vessels under the designation of cognac must bear also a designation showing the country where it was prepared for consumption. The Federal Council is authorized to issue further detailed regulations. The designations prescribed by the Federal Council must also appear on price lists, wine lists ,and other offers used in trade.

From the foregoing it will be seen that drinkable alcoholic beverages not produced from wine can not be designated as "cognac," but might, perhaps, be designated as "brandy" or "branntwein," as the word is translated into German.

The introduction of the cognac paragraph in the wine law quoted is a new feature, dating from April 7, 1909, only. The following are the motives which justified its adoption: The use of the word "cognac" to designate a certain class of merchandise had become so general and often so improper that legislative regulation became imperative, and this was urged both by the German brandy wine distillers and by the dealers in cognac brandy in order to remove the trade uncertainty.

If the German beverage under consideration as likely to be labeled brandy raised any question at all, it would be, most probably, whether or not the word brandy designates origin or conveys a generic notion. The question has not been decided judicially in Germany, but as brandy is a word common to England and the United States, and does not differ greatly from the German and Danish words signifying brandy, it would be difficult to prove, probably, that it designates origin in the same sense as cognac. The German decisions in similar questions have not all been alike. Thus, it has been decided in this country that "Chartreuse" is the designation of an origin, while "Curaçao" has been determined legally to be a generic notion.

Whatever may be the decision of the manufacturers of German imitation cognac with respect to their labels, it may be asserted positively that the words "American brandy" can not be used to designate German brandy, even though the latter be produced from the same substances as the former.

TEA TRADE.

UNITED KINGDOM.

INCREASED IMPORTATION LAST YEAR—PRICES IN LONDON.

Special Agent Henry Studniczka, writing from London, gives an account of the consumption of tea in the United Kingdom, with prices and other particulars, as follows:

The people of Great Britain are large consumers of tea. In London, in each city square one will find one or more retail tea houses, where this beverage is dispensed with other light refreshments. In the less pretentious sections of the city, a cup of tea with a roll of bread and fresh butter are served at 8 to 10 cents, and in the more pretentious neighborhoods this charge is doubled and quadrupled.

The total imports of tea into the United Kingdom increased considerably in 1909, amounting in value to $56,726,873, as compared with $52,223,030 in 1908. The reexports to other countries amounted to $11,315,517 in value in 1909, as compared with $9,116,950 in 1908. The value of the tea exports to the United States in 1909 was $2,108,123. The official returns of the United States show that the value of the tea imported from the United Kingdom was $2,786,932, while the total imports from all countries was $16,553,032 in 1909, as compared with $16,660,322 in 1907. The London exporters assert that they see a fine future in tea exports to the United States, and expect an annual increase in the consumption of tea in that country.

WHOLESALE BUSINESS IN LONDON AND PRICES.

Over 300 wholesale tea merchants are doing business in the city of London alone. This does not include the dealers that are listed as tea brokers, but does include the packers of tea from bulk into small packages. Some fourteen of these houses were visited, only five of them being exporters to other countries, while the remaining nine were doing business in the United Kingdom only. A large importing house representing a considerable number of tea planters claim London as the cheapest wholesale market for foreign buyers of tea, owing to the superior direct steamship communications with Ceylon, Calcutta, and other shipping points. Freight from these ports is only 4s. ($0.97) per case, or 36s. to 40s. ($8.75 to $9.73) per ton of 2,240 pounds. This firm asserted that when tea reaches London it must be sold at wholesale market price and be fully up to quality, tested by experts.

Among the other wholesale dealers visited prices were nearly alike on given brands. The average of these prices for the London market, in bulk, was, per pound, as follows: Ceylon Pekoe, 7d. to 9d. (14 to 18 cents); Ceylon Orange Pekoe, 8d. to 1s. (14 to 24 cents); Assam Pekoe, 7d. to 1s. 6d. (14 to 36 cents); Assam Orange Pekoe, 8d. to 2s. (16 to 48 cents); Darjeeling Pekoe and Orange Pekoe blend, 1s. to 2s. 6d. (24 to 60 cents).

Among the wholesale exporters visited there was the same uniformity of prices and the same claim for difference in quality. The prices of a house that exhibited at the St. Louis World's Fair represent the average export prices per pound quoted on tea: Ceylon Pekoe, 7½d.

to 9½d. (15½ to 19 cents); Ceylon Orange Pekoe, 8½d. to 1s. (16½ to 24 cents); Assam Pekoe, 7½d. to 2s. (15 to 48 cents); Assam Orange Pekoe, 8½d. to 2s. 6d. (16½ to 60 cents); Darjeeling Pekoe and Orange Pekoe, 10d. to 3s. (20 to 73 cents).

All these prices are in bulk f. o. b. New York City. This firm also claims that the merchants of the United States have found that they can purchase tea in London cheaper than they can direct from Colombo, Ceylon, or Calcutta on account of the better steamship facilities and also because positive of receiving the quality purchased.

TEA OF VARIOUS KINDS.

Prominent packers of teas into smaller packages were visited. Various packages are used, the most popular of these being a nice lacquered tin can. Stone jars and paper boxes are also used, the latter having a lining of parchment paper. A large firm quoted, per pound, the following special named brands, which are protected by trade-mark: Capital Household Tea, 1s. 6d. to 1s. 8d. (36 to 40 cents); Splendid Family, 2s. (48 cents); Pure China Tea, 2s. 8d. (64 cents); Her Majesty's Special Blend, 3s. (73 cents).

Great claims are made for this latter brand as the very finest blend that possibly could be prepared by experts, Queen Victoria having used the same for many years.

The species of tea known as tea dust and crushed tea seem to be nothing else but the leavings of high-grade blended teas, as the name would imply. They are sold under the claim of having been sifted from the choicest Ceylon and Indian teas, and are represented as very powerful and extremely economical, and are sold at from 1s. to 1s. 6d. (24 to 36 cents) per pound.

Flavoring teas are offered at from 3s. to 3s. 6d. (73 to 85 cents) per pound. The above prices by the packers are subject to a small cash discount. For small packages extra charges are made; for larger packages of from 5 to 20 pounds the canisters or boxes are included in the price.

RETAIL TEA PRICES IN LONDON.

To ascertain the retail prices ten of the largest retail tea firms were visited. Those in the West End obtained apparently far better prices for their goods than those in the less aristocratic sections of the city. All the prices given are per pound for one pound or more, fractions of a pound costing relatively more money. The following named blends were offered at the different places:

Good India tea, 1s. 6d. (36 cents); Indo-Ceylon, 1s. 8d. (40 cents); Excellent Congo, 2s. (48 cents); Fine Congo, rich full flavor, 2s. 4d. (56 cents); Souchong and Darjeeling, 2s. 6d. (60 cents); Choice Souchong, highly a connoisseur's tea, 3s. 6d. (85 cents); Pure Ceylon teas, under the names strong, fine, superior, or choice, 1s. 9d. to 3s. 6d. (42 to 85 cents); Pure India teas, 2s. to 4s. (48 to 96 cents); Finest Darjeeling Orange Pekoe, 4s. to 5s. (96 cents to $1.22); Pure China teas, 2s. 2d. to 3s. 6d. (52 to 85 cents); Finest Lapsing Souchong, 3s. to 4s. (73 to 96 cents); black teas, green teas, and fancy teas were quoted at from 2s. to 3s. 6d. (48 to 85 cents); Finest Formosa Oolong, 4s. (96 cents); Finest Scented Caper, 3s. (73 cents); Finest

Moyune Hyson, 4s. (96 cents); Finest Moyune Gunpowder, 4s. (96 cents). None of those firms offered anything other than the finest and highest grades of teas.

EXPERT ADVICE TO TEA DRINKERS.

Considering the important place that tea occupies as a daily household requirement of so many nations, expert suggestions may be interesting. Tea gathering begins in spring and continues until late in the year. The young spring leaf gathered is the most succulent, and full of strength and flavor. The leaves gathered last are not nearly of such a fine flavor, as the sap has already been diverted from them to produce new shoots for the coming year. The quality and character of the tea is also greatly influenced by the location of the tea garden. On the hills the finest flavored teas are obtained. In the plains the stronger tea is produced.

Tea should never be kept in ordinary paper. It not only loses freshness but is easily contaminated by its peculiar faculty of absorbing the flavor of other articles near which the tea is placed. In making the tea in the English fashion special precaution is taken that no old leaves from previous brewing remain in the teapot; and the teapot should be rinsed with boiling water so that it is warm when the leaves are placed therein. The greatest care must be taken that the water actually boils, and it should be poured upon the tea immediately after it really does boil. Water boiled for some time will never draw tea properly. The infusion should stand no longer than five minutes.

AUSTRIA-HUNGARY.

HIGH QUALITY OF THE LEAF CONSUMED IN THE MONARCHY.

Consul-General Charles Denby, of Vienna, in furnishing the following report on the tea trade of Austria-Hungary, calls special attention to the high prices paid by the consumers in the United States as well is in Austria-Hungary for the product:

The Austrians probably use a higher average quality of tea than any people in the world, except perhaps the Russians, and the two nations prepare their tea for drinking in a more intelligent way than elsewhere in Europe or in America. The high retail price for tea here is a natural incident of the good quality of the commodity, but it is also due to other causes, which appear to be operative in the United States as well as here. While Austria imports tea from China principally, consignments reach this country by a variety of routes, the customs returns showing twenty different points of shipment. The large dealers are direct importers, the small shops for so-called "colonial wares" buying from various European markets.

The teas imported by those twenty different routes, and doubtless of many different grades, are given at about the same price per pound, while, as a matter of fact, they are of a variety of qualities and of prices at retail ranging from about 70 cents to about $2 per pound. As the duty levied on tea is a specific and not an ad valorem duty the exact value is immaterial for customs purposes, though from a commercial and statistical point of view more exact values would be interesting. In the same way and for a similar reason American customs estimates of values of imports are not an index of cost.

The imports of tea into Austria-Hungary in 1908, the latest available statistics, were as follows: By land, from 16 countries, 145.2 long tons, valued at $180,152, approximately 55 cents per pound; by sea, from 15 countries, 1,263 long tons, valued at $1,274,918, all but that imported directly from China being valued at 55 cents per pound, while the 1,221 tons, valued at $1,225,683, imported from China was approximately 45 cents per pound. Total imports, 1,408.10 long tons, valued at $1,455,070, or 46.13 cents per pound.

Austria consumes almost exclusively China teas, the total import from India being about 2½ per cent of the whole, while the Japan tea amounts to less than 1½ tons. Tea reaches Austria by sea principally, though about 10 per cent of the total comes by the Trans-Siberian Railway. Sea-borne tea is subject to a lower duty than that which comes by land, with the avowed object of increasing the importance of the Austrian harbors of Trieste and Fiume. In the customs returns tea is credited to the last port from which imported.

Japanese tea has a large sale in the United States, because of the predilection of the American consumer for "green" tea, which is almost unknown elsewhere; while the English market encourages the India and Ceylon product.

The usual brands of tea sold in Vienna are the familiar Souchong, Congou, Ningchow, Panyong, Moning, and Kintuck, of China, and the Pekoe, of Ceylon. The greater part of the trade is in the hands of 10 to 20 dealers, who import direct from the producing countries, though a considerable business is done in a small way by so-called Colonial-warenhändler, who supply their demands from English and German markets.

PRICES OF TEA TO THE AUSTRIAN AND AMERICAN CONSUMERS.

The price at which tea is imported into Austria gives rise to an interesting inquiry. The average price would appear from official figures to be about 46 cents a pound—if the figures were at all near the truth it would be an indication that this country purchased in China teas of the highest grade, a grade so high, in fact, that it could not be compared with the ordinary commercial article. In fact, 46 cents a pound is several times the average price which the shipper in China receives for the tea. The probability is that the figures of the value declared on importation are exaggerated. The import duty on tea into Austria is not on an ad valorem basis, but is 240 crowns ($48.72) per 220 pounds on land-carried tea and 217 crowns ($44.05) on sea-borne tea, so that the importer may declare whatever figure he pleases without extra cost to himself.

It is noticeable that a similar discrepancy exists in the United States between the declared value of the tea when shipped from Shanghai and its retail price to the consumer. The American retail purchaser pays many times the price which was declared at the China custom-house on shipment; he pays, in fact, so much that the cost of the tea on shipment is a small fraction of the cost at which the consumer gets it.

Here are two markets, great consumers of teas of quite different characters, the United States importing large quantities of green leaf from China, Japan, and Formosa, and Austria almost exclusively the best black China leaf, and both paying retail prices out of all proportion to the well-known wholesale rates of the tea by the China shippers. Duties do not explain the matter; tea in the United

States is duty free; in Austria it pays a small tax. The freights to the two countries are about the same, 46s. ($11.19) a ton from Shanghai to this market, less to New York. As far as can be learned here, there is no tea trust to arbitrarily keep up prices; the dealers are not organized any more than they appear to be in the United States; but in both countries the consumer seems to fail to reap the benefits of a competition which he might expect at least to reduce the price.

RASPBERRIES IN SCOTLAND.

OVERPRODUCTION FOR JAM MAKING CAUSES SERIOUS REVERSALS.

Consul Rufus Fleming, referring to the noteworthy fact that, although the United Kingdom produces only a small proportion of its food supply, Scotch horticulturists last year suffered serious consequences from their overproduction of one article of food, namely, raspberries, says:

Intensive culture of certain small fruits, especially raspberries, strawberries, and grapes, has been practiced in Scotland with some success for many years. The light soil of the Blairgowrie (Perthshire) district is well adapted to the growing of raspberries and strawberries. In 1900 the strong demand for raspberry pulp for jam manufacture turned attention particularly to the cultivation of this fruit, and new plantations were made. Raspberry growing requires much labor, as well as an abundance of good fertilizer, the annual expenditure for these purposes exceeding $100 per acre. Plantations yield 1½ to 4 tons, or an average of about 2½ tons, per acre. Up to 1900 the fruit was grown principally on land leased at the agricultural rate of $5 to $7.50 an acre per annum. The large profits realized led naturally to higher rents, which in 1906 reached $58 per acre for land near the town of Blairgowrie and $30 per acre farther out. In 1903 the price of raspberries had been as high as $209 per ton, yielding enormous profits to the growers and attracting other horticulturists and farmers into the flourishing industry. In the three succeeding years a profit of $195 to $245 per acre was not uncommon. One plantation showed this return per acre in that period for one year: Three tons of raspberries, at $136 per ton, $408; expenditures, including rent, $146; net profit, $262.

The value of plantations, apart from the land, at full bearing (in the fourth year) a few years ago ranged from $195 to $487 per acre. About 1,000 acres in the district were devoted to raspberries alone, the annual shipments to English jam factories exceeding 2,500 tons.

Falling prices in 1907 marked the beginning of the decline of the industry. Last year the supply largely exceeded the demand, with disastrous results to the growers. Up to 1906 the average price was about $112 per ton. In 1907 it fell to $92.50, in 1908 to $68, and in 1909 to $44. Plantations became unsalable. Many fruit-growing tenants last fall asked proprietors to take over their plantations as they stood (5-year-old bushes), without payment of any kind, and to let them terminate the leases, which were rated at only $24 per acre. In one case a plantation which was bought three years ago at $487 per acre is now offered at $49. Land rents have fallen about one-half, which may enable the industry to recover in the course of a year or two from its present state of collapse. A landowner in the district

informs the writer that he does not expect raspberries "to ever again reach £20 ($97.33) per ton, and they are hardly worth growing under £18 ($87.60)." A large grower and canner takes the hopeful view that with reduced rents a probable price of £15 ($73) per ton will give a reasonable profit on cultivation and investment.

CANADIAN GEESE AND TURKEYS.

ACTIVE AMERICAN PURCHASES FROM PRINCE EDWARD ISLAND.

Consul Frank Deedmeyer reports from Charlottetown that there is a sharp demand for Prince Edward Island geese this season. He gives the following trade details:

Three American buyers are on the ground, and shipments of live geese this fall are far in excess of shipments of 1908. The number raised this year is put at 75,000. Of this total, about 25,000 go alive to the United States, most of the consignments being to Boston, Mansfield, East Orleans, and Somerville, Mass., where they are fattened and then sent to the market of New York. This goose fattens well and yields richly in rendered fat, used in many households in the place of lard. As an evidence of the increased demand this season, it may be stated that only 4,500 live geese were shipped from this Province in 1908, while shipments for 1909 to November 5 exceed 12,000. The average weight per goose is 8½ pounds alive. The freight from Summerside to Boston is 11 cents each bird. Prices paid farmers last year were from 60 to 65 cents each; this fall, from 80 to 85 cents. Shipments commence about October 15 and last four to five weeks, when dressed geese come into the market. Of dressed geese this Province will ship this winter about 30,000, most of them going to Quebec, Newfoundland, Nova Scotia, Boston, and New York. Geese dressed but not drawn are expected to bring here this year 80 to 90 cents.

The number of turkeys raised in this Province is put at 100,000 this season. Those not consumed here go to Quebec, Newfoundland, Nova Scotia, and some to Boston and New York. Shipments are expected to reach 65,000. Prices per fowl this season will average $1.20, as against $1.10 last year; average weight, dressed, 10 pounds. Shipments begin and end with the month of December.

ENGLISH BUTTER SHORTAGE.

A CURTAILED SUPPLY FROM VARIOUS EXPORTING COUNTRIES.

Consul Horace Lee Washington sends the following abstract from a Liverpool journal on the probable shortage in English butter supply:

The adverse climatic conditions obtaining on the Continent lately will it is feared have a detrimental effect upon the butter supplies, and Liverpool, in common with other parts of this country, will suffer in consequence of this shortage. Snowstorms of a severe character have been experienced in Denmark, the home of the Continental dairy produce, with the inevitable result that the collection of butter from the factories has been delayed, and the importations from that center into England show a marked falling off. While the country is dependent largely upon its Continental supplies, it is fortunate that there has been during the past few years an increased supply from Australia, which will to some extent alleviate the effect of the shortage from other sources. That the effect of the imports of butter will be felt is, however, cer-

tain. The Danish supplies in December last fell off by no less than 32,000 cwts. [English cwt.=112 pounds] compared with the corresponding month of the previous year, and the imports from other Continental countries show a decline of 25,000 cwts. for the same period, and the consignments from Argentina are also less. Against this decrease the supplies from Australia and New Zealand have increased by 36,000 cwts. Moreover, there is every probability of the returns for the past month revealing another marked falling off in the Continental receipts.

Much will depend upon the weather conditions, but there appears to be little risk of a butter famine. Reports received go to show that importers are placing into cold storage large quantities of Danish and colonial butter, and it is almost certain that the price of butter will be increased. It may be pointed out, however, that the new season will shortly be entered upon, and given favorable weather, the supplies should, in the course of a few weeks, revive, in which case the slump will only be temporary.

With the advance in the price of butter, and also of mutton, there will be a corresponding increase in the demand for cheese, and apparently this has been anticipated, and the market prices are higher, and are expected to rise still further.

THE KOLA NUT.

EATEN RAW BY THE NATIVE LIBERIANS WHEN ON LONG JOURNEYS.

Chargé d'Affaires George W. Ellis, of Monrovia, furnishes the following information concerning the kola nut and its uses in Liberia:

The kola tree is indigenous to Liberia. A number of the nuts are contained in a single fruit. The nut is not exported. Among the natives it is in general use, and a comparatively large local trade is carried on in the Republic, conducted chiefly by former residents of Sierra Leone. There are two varieties of the nuts—the red and the white. The natives eat the nut raw, especially when on long and tiresome trips. It is said that they relieve the effects of hunger and especially thirst. The nuts are retailed at a cent each in Liberian port towns, but if bought in quantities for export could be secured much cheaper and for trade goods in exchange. The kola nut surpasses all other known fruit in alkaloids. It is a very active stimulant, and is said to remove the stupor of inebriety. Its medicinal properties are said to be exceedingly effective in asthma, headaches, seasickness, and in feebleness of the circulatory and nervous systems, but as a drug its value is still undetermined.

INDUSTRY AND LABOR.

BRITISH LABOR CONDITIONS.

WAGE SCALES SECURED FROM UNION ORGANIZATIONS.

Special Agent Henry Studniczka, who has been making an investigation of wages, cost of living, and the general condition of the laboring population in the London district, submits the following report:

The scales of wages given herein have been recognized since October 1, 1909, by the different trade unions and agreed to by the employers' associations. In a few exceptional cases the scale has been determined by the local conciliation boards or by umpires and arbitrators accepted by the unions. The wages named are for time work of male adults. Wages in the interior of England for the same trades, it is stated, are on a lower level, owing to the fact that living expenses there are proportionately lower.

The figures were secured from the secretaries of the labor organizations in London or, if the principal offices of the unions were in Manchester or other cities, from subordinate unions in the metropolis. Among the prominent labor organizations visited were the Workingmen's Club and Institute Union, the National Antisweating League, the Women's Trade Union League, and various unions of the building trades. The Workingmen's Club and Institute Union is a union of some 1,300 workingmen's clubs, with a membership of over 400,000. The National Antisweating League, authorized by the Board of Trade in 1909, embraces those employed in the following trades: Wholesale ready-made clothing, paper-box manufactures, machine-made lace and net work, and certain kinds of chains manufactured by women and children. The league, directly and through its branches, makes inquiries into existing conditions. The law authorizing its work affects between 30,000 and 40,000 employees, many of them women and girls, who are kept acquainted with their rights under the various labor laws.

All the secretaries of the building trade unions stated that building in London has been dull for the past three years. At all of the offices visited there was a general complaint of short time and proportionately poor earnings for the various classes of workmen during the past two to five years. The secretaries that were willing to commit themselves said that their men during this period have not had employment more than 65 to 75 per cent of the full time they were willing and able to work.

WAGES PAID TO VARIOUS TRADES.

Following are scales of the wages paid the various trades and classes of labor in the London district, the number of working hours per week without overtime also being given:

Building trades.—Working hours per week, 50 in summer and 44 in winter. Wages per hour: Stone masons, 21 cents; bricklayers, 21

cents; plasterers, 22 cents; bricklayers' and plasterers' assistants, 14 cents; carpenters, 21 cents; plumbers, 22 cents; painters, 18 cents.

Furniture trades.—Working hours per week, 52. Wages per hour: Cabinetmakers, 21 cents; polishers, 18 cents; upholsterers, 20 to 24 cents; machinists, 20 to 28 cents; carvers, 19 to 22 cents; chair makers, 20 cents.

Boiler makers and steel-ship building trades.—Working hours per week in shop, 54; for repair work outside, 45. Wages per week in shop: Boiler makers, sheet-iron workers, and angle-iron smiths, $10.94; riveters, $6.32; calkers, $8.49; holders-up, $6.56. For outside work wages are about $1.21 more per week.

Lithographers.—Working hours per week, 54. Wages per week: Lithographer, $9.73 (minimum); lithographer, tin printing, $10.94; lithographer, rotary machine, $13.38.

Bookbinders and rulers.—Working hours per week, 48. Wages per week for bookbinders and rulers, $8.50.

Compositors.—Working hours per week, 52½. Wages per week in jobbing trade and on weekly newspapers, $9.49.

Electrical workers.—Working hours per week, 54. Wages per hour: Fitters and wiremen, 19 cents; armature winders, 18 cents; cable joiners, 19 cents.

Shoe trade.—Working hours per week, 52½. Wages per week: Clickers (foremen), lasters, and finishers, $7.29; pressmen, $4.86.

Bakers.—Working hours per week, 55. Wages per week: Foremen, $8.51; first-class hands, $7.29; second-class hands, $6.81; helpers, $6.56.

Engineering trades.—Working hours per week, 54. Wages per week: Turners, fitters, coppersmiths, brass finishers, borers, slotters, millers, die sinkers, and press tool makers, $7.73; smiths, $9.73 to $11.92; millwrights, $10.33; iron founders, $9.73 to $10.46; pattern makers, $10.70.

Ship service.—Wages per month with board: Chief steamship engineer, $68 to $83; second engineer, $48 to $58; third engineer, $36.49 to $43.79; fourth engineer, $30.40 to $36.49; firemen, $21.89 to $24.33; trimmers, $19.46 to $21.89; able seamen, $19.46 to $21.89; able seamen (sailing vessels), $14.60. Dock stevedores receive 16 to 24 cents per hour for loading and unloading vessels.

POLICE, MOTORMEN, CONDUCTORS, CABMEN, ETC.

London city police.—These policemen work in the heart of the city on exacting duty and their pay is $6.56 (minimum) to $10.33 (maximum) per week. The London Metropolitan police, taking in all the duties in greater London, receive $6.19 (minimum) to $8.51 (maximum) per week, and the reserve class receive $9.34 per week. Twelve cents additional is paid for each 5 years' service with good conduct. These men receive an extra allowance for coal in winter and their uniforms are furnished.

Motor omnibus drivers and conductors.—There are about 2,000 motor omnibuses in London and the motormen receive from $1.70 to $1.94 per day of 15 to 16 hours, according to the trips they have to make, the length of service for the company also being considered. The conductors who collect the fares receive from $1.46 to $1.70 per day.

Horse omnibus drivers and conductors.—The drivers and conductors of the 2,500 horse omnibuses receive from $1.46 to $1.70 per day of 15 hours. Length of service for the company is a factor in determining the wages.

Taxicab motormen.—In London there are approximately 4,000 taxicabs. The men that operate them receive 25 per cent of the money they actually collect. Out of this they furnish their own gasoline and do the minor repairing themselves. As an average the men interviewed stated that they can make $15 to $20 per week, according to how fortunate they are in securing passengers. This is unquestionably the best paid class of workmen I found in London.

London cabmen.—London has over 9,000 four-wheeled and two-wheeled one-horse cabs. The cab drivers rent these cabs and horses from different companies. They pay the owners in winter season $1.94 and in the summer season when London is full of tourists and their business is very active $2.92 rent per day for cab and horse. Their compensation for driving is the difference between the rental they pay and the fares they collect. The men interviewed stated that only in the busy season can they make from $10 to $12 per week, and in winter months they can not realize more than $7 weekly.

Coal porters.—Almost all houses in London are heated by grate fires. The daily coal delivery therefore takes a large force of men. Coal is delivered in 112 and 56 pound sacks, each wagon having a driver and a helper. They receive 14 to 16 cents per ton for loading the coal on the wagons, delivering, and unloading at the houses. On exceptionally thickly settled routes they can make about $7 per week each. In poor neighborhoods the coal porters pay for the coal as they take it out and collect whatever price they may be able to get for the coal. This difference in price is their compensation for their work.

City street cleaners.—Each street-cleaning wagon has one driver and one loader, each of whom receives $1.13 per day, 56 hours constituting a week.

Delivery-wagon drivers.—The drivers of delivery wagons of wholesale and retail houses work from 12 to 14 hours per day. Many of them collect for the goods, and they receive $7.25 to $8.50 per week. Those that deliver only and make no collections receive $6 to $7.25 per week.

London letter carriers.—This is part of the government civil service. The apprentice letter carrier starts at $5.10 per week. When old soldiers are employed they start at $5.83 and are gradually advanced to $8.51 per week, according to time of service and record. This is the maximum pay. Their uniforms are supplied by the Government, and a pension is paid when they reach the old-age limit.

Common laborers.—Common day laborers receive for various work from 10 to 14 cents an hour. Gas-works stokers get $1.39 to $1.46 for 8 hours' work, double time being given for Sunday labor.

LABOR IN AGRICULTURAL DISTRICTS.

A trip was made to Godalming in the county of Surrey, Swanley, county of Kent, and Haslemier in the county of Surrey. The wages paid in these counties are almost the same, and have been averaged

in one general figure for each class of workmen. None of these places is over 30 miles distant from London.

Common laborers receive $4.38 weekly, or, estimating the value of supplies furnished by the landowner, $4.98 per week.

Hostlers and cattlemen receive $4.50, cash, weekly, or, with the addition of cash value of supplies, $5.46.

Shepherds receive $4.86, cash, or, with the addition of cash value for supplies, $5.34 weekly. The married men are supplied with cottages, and receive in many cases ground for gardens or potatoes, straw for pigs, and free cartage of fuel, and other minor benefits which the landowner wishes to grant them.

All single hired men on farms in these counties receive lodging and board in farm houses and $4.38, cash compensation, weekly. It is generally understood that these men work longer hours.

From all my interviews I am constrained to arrive at one conclusion, that the unskilled laborer in this district can not make over 20s. ($4.86) per week at steady employment, and that even some of the mechanical workers, such as those in the building trades, are not earning over 25s. ($6.07) weekly on a general average the year round.

COST OF LIVING.

The prices of living supplies furnished in this statement were obtained in the three most prominent laboring districts in the city: Islington, Hackney, and Whitechapel. From ten to fifteen stores in each district were visited, and from two to three of the articles were priced in each store; and the figures given below are the average obtained in the three districts on each article named.

Following is a list of prices asked for various articles in the three districts visited:

Articles.	Price.		Articles.	Price.	
	Pence.	*Cents.*		*Pence.*	*Cents.*
Apples, second and third quality ..... lb..	2 to 3	4 to 6	Milk, fresh ..... pint..	2	4
Bread ..... 4 lbs..	6	12	Oatmeal ..... lb..	2 to 3	4 to 6
Butter, dairy ..... lb..	12 to 16	24 to 32	Onions ..... do....	1	2
Cheese, Canadian ..... do....	7 to 8	14 to 16	Oranges ..... 2 to 3..	1	2
Cocoa ..... do....	8 to 18	16 to 36	Potatoes ..... lb....	¼ to 1	1 to 2
Coffee ..... do....	8 to 18	16 to 36	Potatoes ..... cwt..	36 to 48	72 to 96
Currants ..... do....	2 to 4	4 to 8	Prunes ..... lb..	4 to 6	8 to 12
Eggs ..... 12 to 16..	12	24	Raisins ..... do....	3 to 5	6 to 10
Fish:			Rice, lowest quality ... do....	2	4
Cod ..... lb..	4 to 6	8 to 12	Sirup ..... do....	3	6
Salmon ..... do....	3 to 4	6 to 8	Sugar:		
Various kinds ..... do....	2 to 6	4 to 12	White ..... do....	2½	5
Flour, second quality .. 3½ lbs..	4½ to 5	9 to 10	Yellow ..... do....	2	4
Jam ..... lb..	3 to 4	6 to 8	Tapioca ..... do....	4	8
Marmalade ..... do....	4 to 5	8 to 10	Tea ..... do....	10 to 30	20 to 60
Meat:			Tomatoes ..... do....	4	8
Bacon ..... do....	8 to 12	16 to 24	Vegetables, general ... do....	1½ to 2	3 to 4
Beef—					
Frozen ..... do....	5 to 7	10 to 14			
Fresh ..... do....	8 to 10	16 to 20			
Pork, steak and ribs. do....	6 to 8	12 to 16			

No effort was made to obtain the prices in the higher resident districts or round the habitations of the middle classes as 25 to 50 per cent more is charged in these districts for the articles sold by the same name, the quality, however, being superior. My aim was

to get at the cheapest possible way of living for the men who do not earn over 25s. ($6.07) per week and less, this amount representing the greatest army of laborers in the city of London.

Special attention has been given to the cost of bread. Over 20 large retail bakeries were visited, and the same class of bread that can be purchased in Chicago, St. Louis, and New Orleans at 5 cents per pound costs here 4 cents per pound in all the retail stores. In the laboring districts, however, a 4-pound loaf is sold for 12 cents. This bread compares well with the second day's stale bread which wholesale bakers in American cities sell for 2½ cents per pound. It is a good substantial food, but not the best obtainable.

ESTIMATED WEEKLY COST OF LIVING PER FAMILY.

Not less than 75 families were visited, and from all the information gathered from these interviews a family of man and wife with possibly two small children may subsist on the following food per week:

Articles.	Quantity.	Cost.		Articles.	Quantity.	Cost.	
	Lbs.	*Pence.*			*Lbs.*	*Pence.*	
Bacon	2	24	$0.48	Potatoes	14	12	$0.24
Bread	30	45	.90	Rice, or equivalent	8	6	.12
Butter	1	12	.24	Sugar	5	10	.20
Cheese	1	7	.14	Tea	½	6	.12
Coffee	¼	3	.06	Vegetables	5	5	.10
Currants	1	3	.06				
Meat, frozen	6	30	.60	Total	.....	183	3.66
Milk	a10	20	.40				

a Pints.

The pence have been converted on the basis of two cents, but the slight difference between this and the actual value would make the total cost $3.68.

To this must be added the cost of rental, which amounts in the poorest districts for one room to not less than 2s. (48 cents) per week, and for a three-room flat from 8s. to 10s. ($1.94 to $2.43) per week. The coal in these laboring districts is sold at the rate of 32 to 36 cents per 112 pounds. To this must also be added the possibility of a car fare, which amounts to 2 cents to 8 cents per trip. The men seldom use the cars, unless exceptional distance from work necessitates this. Some of the better-paid workmen such as engineers and others, who earn from $7.25 to $9.75 per week, are living better in proportion. The only real cheap article I found is the workingman's clothing. One of the union secretaries stated: "No workman with wife and two children in London, in my opinion, can subsist and be housed for less than 22s. ($5.34) per week.

The Board of Trade Labor Gazette states that employment in January was, on the whole, not quite so good as in December. Shipbuilding and engineering continued to improve, but nearly all the textile trades showed some falling off, especially cotton. There was also a seasonal decline in the building and printing trades.

The winter months are everywhere the poorest times of the year for the working classes, and there are thousands of unemployed men able and ready to work, around the London docks. Charitable institutions are doing their utmost to take care of the indigent classes.

CONCRETE AND CEMENT.

PALESTINE.

ITS APPLICATION IN UNCOMMON FORMS IN JERUSALEM.

Deputy-Consul John D. Whiting furnishes, in answer to an inquiry, the following report covering concrete in Palestine and its application in an uncommon way in a German sanatorium in Jerusalem:

Concrete, introduced into Palestine about 20 years ago, was first used only for making floor tiles. The materials used were sand and shells from Jaffa and cement from Germany. At first these tiles were made in wooden molds and pressed by wooden mauls, and without patterns, in either black or white. Some years ago a leading German merchant imported a European machine, and produces in his factory in Jaffa different sizes, colors, and designs of tiles, also concrete sewer and water pipes and railings, cornices, steps, and building blocks.

In Jerusalem the opportunity for selling floor tiles, pipes, steps, and perhaps cornices is quite large, especially the first mentioned. Little, if any, opening can be expected for using concrete building blocks, as stone is plentiful, and labor for quarrying and dressing it is cheap, while cement and sand are extremely high, since it costs $4 a ton to bring them from Jaffa by rail, although the distance is only about 53 miles.

In Jaffa the conditions are reversed. Little stone is found in the vicinity, and much of modern Jaffa has been built from sandstone brought from the ruins of Cæsarea and other old towns. This source of supply is now exhausted, and as stone quarries are scarce and the material inferior, concrete building blocks are growing in use. An inexhaustible supply of sand and shells is right at hand.

These blocks are now used in building corners of houses and for sides, sills, and arches of windows and doors, the spaces between being filled with sandstone, sometimes plastered over. The houses are sometimes finished off with a concrete cornice; often an entire balcony is thus made, the top, brackets, slabs, and railing being molded separately and cemented into the building. Concrete steps are also quite often used, and generally the floors are paved with concrete tiles.

REENFORCED CONCRETE.

Reenforced concrete has just appeared, calling forth much interest and curiosity from natives, especially masons. When the German Emperor and Empress visited Jerusalem in 1898 a carriage road from the northern suburbs up and along the ridge of Mount Scopus to the summit of the Mount of Olives was built for them by the Turkish Government. From the top of Mount Scopus there is an extensive view. Jerusalem lies near by, below to the west, and to the east the Dead Sea appears only a few miles off, while it is over 20 miles, and beyond it and the Jordan valley extends the range of Moab.

It was this sight that impressed the Empress, and on her return to Germany a large sum was collected for building a sanatorium at this place, which is to be ready for opening in April. The cost is about $386,000, and it will be known as the Kaiserin Augusta Victoria Stiftung. It will be open to the German public. In this building concrete has been used in a different manner from that in general use.

The sanatorium proper is two stories high, with a basement under a part, and is built around a large open court. The living rooms, etc., form two sides and the north end, while the south end is occupied by the church and the lofty bell tower. The apses are toward the south, it being the first Lutheran church in which the apses do not face east.

The facings are large blocks of gray limestone trimmed with white limestone, and the building terminates in a steep roof covered with black tiles.

Owing to the high price of sand here, mortar is generally made of lime mixed with black soil, but in constructing this building stone crushed fine mixed with lime has been used. The bell tower, 197 feet high, is finished inside with concrete steps, from the second story up, made in Jaffa of sand and shells with an iron I beam embedded in each step. The steps are about 42 inches long, with about 10 inches built into the wall, and, on the under side, are slanting, the top one lapping slightly over the one below. The part built into the wall is square. The staircase, not otherwise supported, goes around the four inside walls and at the corners square reenforced landings are made, supported on the side where one flight ends by an I beam built into the wall, and on the other, where the next flight begins, by another I beam imbedded in concrete, making it about 14 inches square on the outside. These steps cost only one-half what stone ones would.

FLOOR AND ROOF FEATURES.

The floors throughout the building are hollow tiles and concrete. Where the span is considerable two I beams, about 16 inches apart, are used, filled in with reenforced concrete. These double I beams are placed about 13 feet apart. Boards close together are then put in place, either hung to the I beams or supported by posts from below, on which are laid the hollow bricks, each 12½ by 12 by 6.3 inches. A space of 1⅜ inches is left between the bricks each way, and iron rods 0.6 to 0.7 inch in diameter are laid in between the bricks running the shortest way. The rods lie flat near the bottom of the space, and pieces of stiff paper are used to cover both open ends of all the bricks to prevent them being filled with the concrete, which is poured in until it covers them 1⅜ inches, making the total thickness of the floor 8 inches. The concrete is made of cement and sand only. In this way the floor is formed of concrete T beams running in both directions, one reenforced and one not, with a brick to fill up each of the empty squares left. In only one case, a floor 86 square feet was made without the I beams being used. It was made as above, the only difference being that the iron rods in the concrete were placed, running in both directions. In another place where the floor needed strength, and where a flat ceiling was required, a reenforced concrete beam about 29 inches wide by 16 inches thick was so laid that it projected above instead of below the floor, not being in the way, as the space above was in the attic.

This being the first instance in which floors of this style were built here, men were brought from Germany to oversee the construction.

The old style roofing in a building in this country was an arched dome. The roofs were then either paved with slabs of stone and pointed in between, or covered with a hard plaster. More than 25 years ago French tiles for roofs were introduced, and with them the ceilings made of iron I beams placed about 40 inches apart and

filled in between with narrow arches built of light firestone, roughly shaped. The old method is still sometimes used, but generally for only the lower stories.

Samples of a German invention, new to this country, just brought in, have not yet had time for trial. Instead of stone arches between the iron I beams, three hollow bricks are to be used side by side, and of a size to fill the space between the beams. The center brick is wedge-shaped and the two side ones are made to fit it. A groove in the lower part of the outer side of the side bricks fits on the lower flange of the I beam. The cracks left between the bricks are to be filled with cement or a fine concrete, to hold them in place. The advantage claimed for this over the old system of stone arches, which costs little as the materials used are to be found locally and the cost of labor is small, is that (1) the floor will be much thinner, which will save in height of walls, (2) that as it will be much lighter, the I beams will be smaller and will cost less, (3) the ceilings will be flat, a feature not heretofore attained, and (4) the objectionable sound being communicated through the floor is said to be entirely eliminated.

SCOTLAND.

EXTENSIVE UTILIZATION OF CONCRETE BLOCKS FOR BUILDING PURPOSES.

Consul J. N. McCunn, of Glasgow, reports as follows concerning the growing popularity of concrete blocks in Scotland for house construction:

Two years ago the merits of hollow concrete-block construction were hardly known in Scotland. Since then a number of tenement houses, cottages, and villas have been erected with these blocks in and near Glasgow, the experiment convincing the builders that they cost less than stone for buildings, are equally as substantial, and more pleasing to the eye. For centuries stone has been the chief building material in Scotland and the finest skilled labor has been employed in stone construction. With the introduction of concrete-block machinery, it has been demonstrated that the blocks may be turned out with ordinary labor, and that the machine is comparatively inexpensive and easy to operate.

A Glasgow dealer has secured the agency for an American concrete-block machine and has already sold a large number of them. This dealer is enthusiastic over the prospect, and states that there is a great future for concrete-block building in Scotland, and now that the first step has been taken others will follow by using this material for every class of building. Within slightly over a year's time there have been constructed in or near Glasgow approximately $150,000 worth of new concrete buildings.

It is claimed that the American machines tried so far are more efficient than those of British or other make, and that they can be sold here at a price that will fully meet all competition. In view of this, and that concrete-block construction bids fair to become a large factor in building operations throughout Great Britain, it would seem that there is an excellent opportunity for American manufacturers of cement and concrete molding machinery. [The consul transmits 6 illustrations of recently erected houses in and near Glasgow, which are on file in the Bureau of Manufactures.]

GERMANY.

DISSOLUTION OF SYNDICATES AND CUTS IN QUOTATIONS.

Consul Talbot J. Albert, of Brunswick, reports as follows concerning the crisis which threatens the cement industry of Germany:

Several of the syndicates in the cement industry in different parts of Germany, which have helped to keep up prices, have gone to pieces, and the result is a keen competition among the separate manufacturers. This may seen from the bids published from a number of factories in answer to proposals of the National Administration of Railways to furnish cement for the building period from April 1, 1910, to April 1, 1911. The prices are calculated upon the basis of a carload of 10,000 kilos (22,000 pounds), exclusive of sacks, from the factory station.

The following statement shows the prices at which cement was sold for the year ended April 1, 1910, as compared with the offers for the year which will end on April 1, 1911, the eight companies interested being given by numbers, their names, however, being forwarded:

Companies.	Year ending April 1.		Companies.	Year ending April 1.	
	1910.	1911.		1910.	1911.
First company	$63.00	$48.00	Fifth Company	$53.82	$30.82
Second company	63.00	47.50	Sixth Company	51.17	31.00
Third company	63.00	40.70	Seventh Company	57.12	39.27
Fourth company	53.80	32.37	Eighth Company	63.31	37.13

The fear is expressed that the prices of cement will go below the cost of production. The reason for this is not only the dissolution of the unions controlling the prices of sale, but also the establishment of a large number of new factories, and foreign competition, especially between the German and the Austrian manufacturers. It is said the foreign competition can only be prevented by new tariff regulations or commercial treaties, and that there is little prospect of an improvement in the industry for some time to come.

NEW WORK FOR BLIND.

BRITONS LEARNING THE MASSAGE TREATMENT AND PIANO TUNING.

Consul Horace Lee Washington describes a novel method, introduced by the Liverpool School for the Indigent Blind, to enable some female pupils to become self-supporting:

Qualified experts have been engaged to teach certain blind inmates the massage treatment of patients. This furnishes a new means for these unfortunates to provide their own livelihood. Records have been kept of those who have left the institution qualified to practice as massage nurses, and the reports are most encouraging. This work is already a familiar employment of blind women in many places in Eastern countries.

Another somewhat unusual trade in which some of the blind are being instructed, and from which good practical results have been obtained, is piano tuning.

MILL OPERATIVES IN SAXONY.

STATISTICS SHOW DAYS AND HOURS WHEN ACCIDENTS OCCUR.

Consul Carl Bailey Hurst, of Plauen, alluding to the fact that foreign statistics published in the local press as to accidents among operatives have given rise to some discussion among employers in that intensive manufacturing district of Saxony, says:

It is shown that most accidents occur soon after pay day. When wages are received on Friday, then Saturday, Monday, and Tuesday are most crowded with accidents among male employees. The worst day for men is Monday. Tuesday is not much better. With women employees the order is just reversed. As the women go to work refreshed on Monday scarcely any accidents happen among them on that day. On the following days the average of accidents among female operatives is almost uniform, until Saturday, when, in towns where it is customary to clean the machinery on the last of the week, many women do not wait until the machinery has stopped, but clean while it is still running, sometimes with disastrous results.

The influence of fatigue shows itself in the number of accidents during particular hours of the day. After several hours' steady work accidents among male operatives are likely to occur between 11 o'clock and midday and 4 and 5 in the afternoon. The most accidents among women occur between 9 and 11 in the morning and 3 and 4 in the afternoon. The smallest number occur between 7 and 8 in the morning and 4 and 5 in the afternoon, because in these intervals they take coffee and become rested.

NEW TIME REGULATIONS FOR FEMALE EMPLOYEES.

New regulations governing the employment of women and young operatives of both sexes came into effect in Saxony January 1, and are of far-reaching importance to the manufacturing industries of the district. The salient points are grouped as follows:

A maximum work day of 10 hours is introduced for female hands, and on Saturdays and the days before holidays eight hours, with the condition that work on Saturdays and the days before holidays must not continue beyond 5 o'clock in the afternoon.

There must be an uninterrupted pause of at least 11 hours for female and youthful workers, with the condition that work must not begin before 6 o'clock in the morning and must not end later than 8 o'clock in the evening. Women who are employed until 8 p. m. must not resume work before 7 a. m.

Before and after confinement, women must not be employed for a total of eight weeks. Before their reemployment, six weeks must have elapsed since confinement.

The working hours may be lengthened, but may not exceed 12 hours for women, and, in connection therewith, there must be an uninterrupted rest of not less than 10 hours, and work must end at 9 p. m. Permission for working over hours is to be granted only by the administrative authorities and can be obtained for a maximum of not over 50 days in the year. In connection therewith it is recommended that the written permission of the authorities to work over hours be posted conspicuously for the perusal of the female employees in question, so that they may arrange their domestic affairs accordingly. By posting the notice in ample time, the complaints from operatives or their friends to the authorities may be avoided as to illegally working overtime.

Women and young people of both sexes who have been employed during the legal time, must not be given work by the employer to do outside of their place of employment. For the days in which females or youthful workers have been engaged less than the legal maximum, only so much work can be given anyone to do at home as an average worker of the class in question

could finish during the rest of the legally allowed working time. For Sundays and holidays no work at all may be given out.

Employers who give their female or youthful workers outside work to do in contravention of the law will be guilty of a misdemeanor and liable to a penalty not exceeding 2,000 marks ($476), or, in default of funds, imprisonment not exceeding six months. Employers who do not keep their operatives at work 10 hours daily can give them, for themselves or for others, enough work to take home to occupy them, under ordinary circumstances, during the time that would make up the full 10 hours.

GROWTH OF CANADIAN CITIES.

BRITISH COLUMBIA ACTIVITY—BUILDING PERMITS GRANTED.

Consul Abraham E. Smith shows in the following report that Victoria and Vancouver—the former the political and the latter the commercial capital—of British Columbia, have kept up with the general advance of Canadian cities during the past year:

For many years the most conservative and perhaps least active city in the Canadian Northwest, the past two years Victoria has developed progress that has astonished old-timers, and indeed the Province at large. Where formerly the building permits did not reach 100 per year, in 1908 the number granted was 568, and last year reached 573. The suburbs—Esquimalt, Oak Bay, and Saanich—have also shared the prevailing prosperity. The population of Victoria during the last two years increased from 30,000 to 40,000. In Greater Victoria the value of new buildings erected was $2,016,445 in 1909, and $1,484,740 in 1908, including some general repairs.

An interesting retrospect of the progress of 30 Canadian cities during 1909 is given in the following table, showing amount of building permits issued compared with 1908:

City.	1909.	1908.	City.	1909.	1908.
Berlin	$278,550	$121,350	Ottawa	$4,527,590	$1,794,075
Brandon	350,120	291,864	Peterboro	343,849	238,963
Brantford	438,885	289,855	Port Arthur	584,810	.....
Calgary	2,420,462	837,100	Port la Prairie	195,000	120,000
Edmonton	2,128,166	2,549,874	Regina	744,479	476,654
Fernie	1,374,700	250,000	St. Thomas	260,000	236,000
Fort William	2,970,365	1,560,835	Saskatoon	1,002,905	115,625
Halifax	630,380	838,725	Sydney	160,470	67,015
Hamilton	1,623,100	1,394,357	Toronto	18,200,000	11,796,436
Kingston	452,695	170,600	Vancouver	7,258,565	5,950,893
Lethbridge	1,268,215	365,495	Victoria	1,673,420	1,130,740
London	850,134	464,180	Windsor	423,885	297,780
Medicine Hat	249,000	153,172	Winnipeg	9,226,325	5,513,700
Montreal	7,783,621	5,062,226			
Moose Jaw	1,107,500	430,925	Total	68,606,821	42,577,439
Niagara Falls	80,000	60,000			

The indications are that Victoria will in 1910 far surpass the record of 1909, the building permits for January being nearly double those issued in corresponding month last year.

SEEKS INDUSTRIAL GROWTH.

Consul Harry A. Conant reports that the purchase of a large tract of land at Windsor, to be held by that Canadian city for bringing in new industries, has been jointly decided by committees representing the city council and board of trade. The committees also discussed the purchase of certain Grand Trunk property for a public dock.

PANAMA HATS.

THEIR MANUFACTURE A HOUSEHOLD INDUSTRY IN HONDURAS.

Consul Samuel MacClintock, of Puerto Cortes, furnishes the following information concerning Panama hat making in Honduras:

Panama hat is a misnomer, Panama being only the place of departure for the hats sent there from South America. The Panama hats made in Honduras, while possibly not equal to the hats made in Jipijapa, Colombia, are nevertheless of a superior grade, but being produced on a small scale and as a household industry they are practically unknown in the United States.

The plant from which the hats are made is called junco (hunco), known scientifically as Carludovica palmeta, named after Charles IV of Spain and his Queen Louisa. The softness of the fiber and its durability make it an excellent material for hat making. The plant grows wild in many parts of the Republic, being cultivated only in the department of Santa Barbara, the cultivation consisting of keeping the weeds and underbrush down. Nevertheless the fiber is superior to that of the wild variety.

The junco grows somewhat like the banana plant, in that it has a parent stalk, and from eight to ten sprouts around the base. When the sprouts are two or three feet high, and about to flower, they are cut off; the long, slim, spearlike casing of the flower is peeled off, the inside of the casing taken out, split with a sharp bone into very thin strips—the thinner the strips the finer the weave of the hat—and then hung in the sun to dry. In a day or two they shrivel into a light, compact cylindrical form, like a cord or string. These are then put into a closed box and smoked with sulphur fumes for 24 hours to bleach, when they are ready for use. The fiber must be continuously moistened while being woven to keep it pliable.

HAT MAKING AND MARKETING.

The hat-making industry of Honduras is localized in the Department of Santa Barbara, where it is carried on by the women of nearly every household. They acquire great skill and rapidity in the weaving, and yet a hat that will take all the time of an expert weaver for 30 days will not sell on the spot for more than $5 to $8. Hats are made ranging from $2 to $25.

Santa Barbara, the center of the industry, is about four days' journey from Puerto Cortes, through which hats are exported to the United States, the exports in 1909 amounting to only $863, against $3,081 in 1908. The journey from Puerto Cortes to Santa Barbara is over a rough mountain road, and must be made on mule back. Most of the hats are bought up by native traveling buyers, who go from village to village, picking up the output and sending them to Guatemala, Mexico, Belize, the United States, and Europe. The output, for local consumption and for export, does not reach $10,000 per annum, but it could be largely increased if there were a larger market therefor. [Samples of the prepared fiber, together with the addresses of the proper persons in Santa Barbara City through whom the hats can be secured, forwarded by Consul MacClintock, are on file in the Bureau of Manufactures. The Bureau also has received a large collection of Panama hats from Madagascar.]

FINANCE AND ECONOMICS.

COST OF LIVING.

CANADA.

RATES OF WAGES AND COST OF LIVING IN YARMOUTH.

Consul Alfred J. Fleming furnishes the following statistics covering the rates of wages and the cost of the necessaries of life in Yarmouth:

Labor is unorganized in this consular district and, outside of Halifax and the iron-mining and iron-working districts, the same applies to all Nova Scotia. Wages are fixed by the employers, and, as will be seen in the annexed table, they are low as compared with wages in the United States. Living in Yarmouth is little, if any, cheaper than in cities of like size in the United States, with the exception of house rent. Farmers and gardeners generally send their produce to Boston, with which there is almost daily steamship communication, and that market generally fixes the prices of foodstuffs here.

Clothing is no cheaper here than in the United States. Woolens are a trifle cheaper, but cottons are dearer. Many persons go from here to Boston to buy their winter and spring goods, and frankly say that for an outlay of $50 in that city, including the cost of the trip, they can get more than for the same amount expended in Yarmouth.

The following statement shows the rates of wages, prices of food, and cost of other necessaries of life in Yarmouth:

Description.	Wages, prices, etc.	Description.	Wages, prices, etc.
WAGES.		FOODSTUFFS—continued.	
Cotton mill:		Milk ..... per quart..	$0.06 to $0.08
Females ..... per week..	$3.50 to $6.50	Flour ..... per 28 pounds..	.80 to .90
Males ..... do....	5.00 to 9.00	Eggs ..... per dozen..	.30 to .45
Iron works:		Lard ..... per pound..	.18 to .22
Boys ..... do....	3 50	Bacon, hams, and shoulders, and fresh meat ..... per pound..	.18 to .22
Men ..... do....	7.00 to 9.00	Crackers ..... do....	.10 to .12
Skilled workers ..... do....	12.00 to 15.00	Fish, dried ..... do....	.05 to .06
Printers ..... do....	7.00 to 9.00	Fish, salted ..... do....	.10 to .15
Plumbers ..... do....	10.00 to 12.00	Cabbage ..... per dozen..	.50 to .75
Bakers ..... do....	7.00 to 8.00	Cornmeal ..... per pound..	.03
Tailors ..... do....	8 00 to 9.00	Oatmeal ..... do....	.05 to .06
Tailoresses ..... do....	5.00 to 6.00	Kerosene ..... per gallon..	.20
Barbers ..... do....	9.00 to 12.00	OTHER NECESSARIES.	
Cigar makers, males ..... do....	9.00 to 10.00	House rent:	
Cigar makers, females ..... do....	3.00 to 5.00	A cottage ..... per month..	5.00 to 7.00
Typewriters and stenographers, males ..... per week..	7.00 to 9.00	House, 6 to 9 rooms ..... do..	10.00 to 15.00
Typewriters and stenographers, females ..... per week..	6.00 to 7.00	Gas ..... per M..	2.00
Blacksmiths ..... per day..	1.50 to 1.75	Anthracite coal .... per ton..	6.50 to 7.25
Carpenters ..... do....	1.75 to 2.00	Bituminous coal ..... do....	4.50 to 5.00
Masons and plasterers ..... do....	1.50 to 2.00	Board for working girls ..... per week..	2.00 to 2.50
FOODSTUFFS.		Board for working men ..... per week..	3.00 to 4.00
Potatoes ..... per bushel..	.50 to .75	Cottons:	
Coffee ..... per pound..	.20 to .40	Bleached ..... per yard..	.18 to .23
Tea ..... do....	.30 to .60	Unbleached ..... do....	.12 to .15
Cheese ..... do....	.18 to .22	Prints (calicoes) ..... do....	.12 to .15
Butter ..... do....	.30 to .35	Ginghams ..... do....	.12 to .25

AUSTRIA-HUNGARY.

THE QUESTION BEING INVESTIGATED BY CHAMBERS OF COMMERCE.

In forwarding the following statistics of the prices of the necessaries of life in Reichenberg, Vice-Consul Edward T. Heyn reports that the chamber of commerce of that municipality, with the largest membership of any like organization in Austria-Hungary, has suggested to all other chambers of commerce in the dual monarchy the opening of an inquiry on the causes which have brought about the present high prices:

The following statement, furnished by the magistracy of Reichenberg, shows the former and present prices of the necessaries of life in this city:

Article.	Former price.	Present price.
Beef.....2.2 pounds..	$0.25 to $0.27	$0.35 to $0.37
Fillet of beef.....do....	.48	.59
Veal.....do....	.26 to .29	.29 to .41
Pork.....do....	.29	.44 to .48
Liver.....do....	.....	.24
Geese.....each..	1.21	2.03
Pigeons.....do....	.16	.20
Ducks.....do....	.60	1.01
Wheat flour.....2.2 pounds..	.09	.10
Lentils.....do....	.....	.10
Millet.....do....	.....	.08
Hulled barley.....do....	.08	.11
Sugar.....do....	.15	.17
Milk.....quart..	.....	.05
Beer.....do....	.07	.11
Anthracite coal.....110 pounds..	.34	.53
Bituminous coal.....do....	.15	.25

Reichenberg being a factory town and its neighboring territory being poorly productive in agricultural crops and live stock is one of the most expensive cities in the country to live in. The high prices of meat are, however, chiefly due to the fact that the number of cattle and other meat-producing animals in Austria-Hungary has not kept pace with the growth of the population.

While prices have risen enormously in this consular district, the average wages in the last twenty years have remained stationary. This condition of affairs has resulted in food adulterations, the use of inferior materials in the manufacture of certain necessities, etc.

The average workingman in Reichenberg lives on 20 cents a day, his meals being as follows: Breakfast, bread, butter, and coffee; forenoon lunch, bread and butter; noon meal, soup, sausage, potatoes, and coffee or beer; afternoon lunch, a little bread; evening meal, potatoes and buttermilk or coffee. At the Sunday noon meal he has pork or beef, in addition to the usual workday meal.

GERMANY.

RETAIL PRICES OF MEAT IN HAMBURG.

In answer to an inquiry regarding the retail prices of meat in Hamburg, Consul-General Robert P. Skinner, of that city, states that there are slight variations charged for similar cuts by fashionable and unfashionable dealers, with the chances, moreover, of secur-

ing a superior quality in the shops where the higher prices prevail. He continues:

The figures supplied in the following table were furnished by a first-class average dealer whose prices are neither the highest nor the lowest. It must be remembered that retail butchers do not cut their meat in this country in exactly the same manner as in the United States. Following is a full tariff of the prices per pound now prevailing in this city for the various kinds and cuts of meat and for lard:

Article.	Price.	Article.	Price.
Beef:	*Cents.*	Mutton:	*Cents.*
Boiling	19.5	Boiling	19.5
Ribs for boiling	19.5 to 23.8	Chops—	
For bouillon	19.5	Large	25.9
Leg	19.5	Small	39
Roast	19.5 to 21.7	Pork:	
Roulade	25.9	Boiling	17.4 to 21.7
Steak—		Ribs	21.7
Sirloin	32.4 to 34.5	Chops (loin)	25.9
Tenderloin	43.3	Hash	19.5 to 21.7
Sausage and hash	17.4 to 21.7	Fillet	32.4
Veal:		Ham, smoked:	
Boiling	21.7	For raw eating—	
Leg	25.9	Whole	22.6 to 25.9
Saddle, with kidneys	30.2	Sliced	47.6 to 51.9
Chops	32.4	For boiling, whole	19.5 to 25.9
Sausage and hash	23.8	Ham, boiled, sliced	43.3
Liver, calf's	32.4	Bacon:	
Lard:		Whole pieces	19.5
In tierces	19.5	Sliced	21.7
Smaller quantities	21.7		

SAXONY.

INCREASED PRICES IN PLAUEN, A SAXON INDUSTRIAL CENTER.

Consul Carl Bailey Hurst, of Plauen, notes by the prevailing prices of comestibles that many food products can not be bought cheaper in that part of Saxony than in the United States. He says:

During the past few years local prices generally have gradually risen, including house rents, transportation, and luxuries. Although the consumption of meat is decidedly less because of higher prices, that of beer has materially decreased, due primarily to successful educative propaganda among people all over this country. Market quotations in Plauen for leading food products at wholesale in American cents per ½ kilo (1.1023 pounds) are as follows:

Fresh meats, beef, 18 to 19; veal, 20 to 22; pork, 22 to 23; mutton, 18; liver sausage, 17 to 26; meat sausage, 17 to 25; lard, 21 to 22; smoked meats, ham, 36 to 45; bacon, 22 to 24; salami sausage, 26 to 36; potatoes, 0.8 to 1; table butter, 36 to 37; margarin, 19 to 21; apples, 4 to 6; dried apples, 12 to 14; roasted coffee, 24 to 52; unroasted coffee, 19 to 40; sugar, in cones or lump, 7; granulated, 6; dried peas, 6 to 7; geese, 21 to 24; turkeys, 24 to 26. The following are prices in cents for each: Live ducks, 71 to 95; old live chickens, 60 to 71; young live chickens, 43 to 48; live pigeons, 15 to 17; hares, 83 to $1.20; cabbages, 2 to 5; fresh eggs, 2 to 3; cooking eggs, 2. Milk, 5 cents; skimmed milk, 2 cents a quart.

Dark rye bread universally found in this district is not bought on account of its cheapness; it is preferred to white wheat bread. Wheat flour, first quality, costs 5 cents per 1.1023 pounds; second quality, 4 cents; rye flour, 4 cents; rye bread, first quality, 3½ cents; second quality, 3 cents per 1.1023 pounds. There are no regular quotations for wheat bread.

The retail prices are considerably higher for all of the foregoing and vary slightly in different localities.

HANOVER.

FOOD PRICES ARE AS HIGH AS IN THE UNITED STATES.

The following information concerning the high prices of foodstuffs in Germany, notwithstanding its intensive agricultural system, is furnished by Consul Robert J. Thompson, of Hanover:

One of the forces at work in Germany to counteract the shifting of the male population to the industrial centers is the employment of women in agriculture. Perhaps no less than 3,000,000 German women are regularly engaged in agriculture, together with a seasonal influx of 600,000 Polish, Bohemian, and Lithuanian women. Still prices for standard foods, with a few exceptions, are as high as in the United States.

The supply of foodstuffs in Germany has only been kept up to the maximum figures by intensive agriculture, the employment of modern machinery, scientific fertilization, and the employment of millions of female hands.

On the basis of income, the German, in comparative occupation with the American worker, should not pay more than 50 per cent of the prices he now pays for his food, while he pays practically the same as the American, with the exception of potatoes, milk, and vegetables. This condition is met by certain self-denials and by the economies exercised by the German housekeeper, who, in an ordinary household, would be almost able to live fairly well on the waste of many American families of similar position in life.

The following statement shows the retail prices of leading foodstuffs in Hanover, which is considered an inexpensive city to live in, in American cents per pound: Beef and veal, 20¼; pork and mutton, 19; smoked ham, 35; bacon, 22½; wheat flour, 4¾; rye flour, 3½; wheat bread, 5¼; rye bread, 3; coffee, medium Java, roasted, 39¼; table butter, 37; milk, per quart, 4¼; eggs, per dozen, 40.

ENGLAND.

COST OF PROVISIONS IN THE CITY OF LONDON.

Consul-General John L. Griffiths, of London, forwards a list of prices of food in that city, covering the articles that enter into the daily consumption of the great masses of the English people. The prices were obtained for same day, February 17, 1910, in widely separated parts of London, including the southwestern, southeastern, northwestern, and western portions of the city. The consul-general says:

The prices of inferior provisions, such as are used by the very poorest classes, were not obtained, as the purpose of this report is to show the cost of living, so far as the table is concerned, for mechanics, artisans, tradespeople, and the very large general public. Care has been exercised to have as far as possible the price in each instance for the same quality of article, and the fluctuations are due to the fact that in some certain localities rents are lower and the running expenses of a shop less than in other places.

Only occasionally have the prices of luxuries been given, such as lobster, salmon, pheasants, ducks, geese, etc., and these have been furnished because of their more general use in America than in England, so that a standard of comparison might be established.

The somewhat striking variations in the prices of certain articles, for example in the case of beet root, ox tails, oranges, etc., are due to the difference in size and quality. It is impossible in many cases to give an absolute average price, because the average would apply only to certain grades or sizes. In such instances I have given the range from the price of the poorest quality or smallest size to the superior article in each particular. In the list following the prices in English money have been converted on the basis of 1 pence equaling 2 cents:

Articles.	Price.
	Cents.
Apples:	
Cooking, pound	3 to 6
Eating, ditto	6 to 12
Eating, each	2 to 5
Dried, pound	12 to 22
Bacon, ditto	11 to 28
Bananas, each	1 to 4
Beans, pound	2 to 4
Beef:	
English, various cuts, ditto	18 to 26
Foreign, various cuts, ditto	10 to 19
Beet root:	
Cooked, each	2 to 4
Raw, dozen	6 to 24
Bloaters, each	1 to 4
Bread, 2-pound loaf	6
Brussels sprouts, pound	2 to 6
Butter, ditto	26 to 32
Cabbages, each	1 to 4
Carrots, pound	2
Carrots, bushel	54
Cauliflower, each	2 to 10
Celery, head	2 to 8
Cheese:	
American cheddar, pound	14 to 16
English cheddar, ditto	20
Stilton, ditto	24
Gorgonzola, ditto	22
Canadian, ditto	17
Dutch, ditto	17
Chickens, each	54 to 96
Cocoa, pound	32 to 66
Codfish, ditto	8 to 20
Coffee and chicory, ditto	24 to 44
Cranberries, ditto	12 to 20
Cream, pint	48 to 67
Currants, pound	8 to 12
Ducks, each	85 to $1.82
Eggs:	
New laid, dozen	3 to 4
Other, 10 to 14	24
Figs, pound	6 to 12
Flour, 3½ pounds	11 to 12
Flour, 14 pounds	48 to 68
Geese, pound	15 to 20
Grape fruit, each	6 to 10
Haddock:	
Fresh, ditto	6 to 48
Dried, ditto	4 to 36
Ham:	
Uncooked, pound	20 to 28
Cooked, ditto	48 to 61
Jams:	
Best, 1-pound jar	12 to 16
Lower quality, 3-pound jar	17 to 30
Kale, sea, bundle	20 to 24
Kale, sea, pound	10
Kale, sea, basket	36 to 42
Kidneys:	
English, each	7
Frozen, dozen	24
Lamb cutlets, each	8 to 12
Lamb cutlets, pound	36
Lard, ditto	10 to 18
Lemons, each	1 to 2
Lettuce, ditto	2 to 4
Liver, pound	12 to 24
Lobsters, each	24 to $1.46

Articles.	Price.
	Cents.
Macaroni, pound	8 to 16
Margarin, ditto	12 to 20
Marmalade, 1-pound jar	9 to 16
Marmalade, 3-pound jar	21 to 24
Milk, quart	8
Mustard, ¼ pound	9
Mutton:	
English, pound	13 to 24
Foreign, ditto	20
Mutton chops, ditto	24 to 30
Nuts:	
Cob, ditto	12
Brazil, ditto	12 to 16
Oatmeal, ditto	4 to 7
Onions, pound	2 to 3
Onions, 14 pounds	24
Onions, bushel	85
Oranges, each	2 to 6
Ox tails, ditto	12 to 48
Oysters, native, dozen	40 to 73
Parsley, bushel	2 to 12
Parsnips, each	1 to 4
Pepper:	
White, ounce	2 to 3
Black, pound	21
Pheasants, brace	$1.09 to $1.21
Pigeons, each	12 to 42
Pork, pound	14 to 20
Potatoes, pound	1 to 2
Potatoes, 112 pounds	$1.33 to $1.52
Potatoes, bushel	66 to 85
Prunes, pound	8 to 12
Quail, each	12 to 61
Rabbits:	
English, ditto	24 to 42
Ostend, pound	15 to 17
Australian, each	18 to 24
Raisins, pound	8 to 12
Rice, ditto	3 to 8
Sage, packet	2
Salmon, pound	56 to 73
Salt:	
Cooking, 2 pounds	2
Table, small packet	2
Sausage, pound	12 to 22
Sirup, golden, 2-pound tin	13
Sirup, golden, pound	6
Spinach, pound	3 to 10
Steak:	
Fillet, ditto	28 to 36
Rump, ditto	24 to 32
Sirloin, ditto	28 to 32
Other, ditto	20 to 30
Sturgeon, ditto	24 to 30
Sugar:	
Loaf, ditto	5
Granulated, ditto	4 to 5
Brown, ditto	4
Tea, ditto	21 to 61
Tomatoes:	
English, ditto	16
Foreign, ditto	8
Turkeys, each	24 to 30
Turkeys, ditto	$1.21 to $7.30
Turnips, pound	2
Turnips, bunch	8 to 12
Veal, pound	24 to 32

OWNERSHIP OF PUBLIC UTILITIES.

CANADA.

PROVINCIAL CONTROL REDUCES TELEPHONE RATES MATERIALLY.

Consul-General John E. Jones, of Winnipeg, finds that government owned and operated telephone systems have had a sufficiently important test in western Canada to demonstrate their success, as practically the entire telephone system of western Canada is thus conducted by the provincial government. Mr. Jones describes their operation:

The most interesting feature of a government-owned utility is the saving it effects for the general public, and it is really upon the relative saving it effects over a private-owned system that its success is reckoned. Under government ownership there has been a material reduction in telephone rates. In Alberta, when the system was purchased from the Bell company, rates for exchanges to 200 subscribers were $30 for business telephones and $20 for private service. Since the government took over the system these rates have been reduced to $24 and $15. There has been no decrease in the cost of business telephones in the larger cities of Alberta, but the private service has been reduced from $25 to $20.

In Saskatchewan the rates were $24 to $35 for business telephones and $18 to $25 for private service. In this Province there are 69 incorporated farmers' rural telephone companies, with an aggregate capitalization of nearly $1,250,000, and supplying some 2,000 subscribers at $12 to $20 per annum.

In Manitoba the telephone rate on rural lines has been reduced from $24 to $20; and, while there has been no decrease in the cost of business telephones, private service has been cut from $30 to $25.

It is estimated that there are some 15,000 miles of telephones in Western Canada, supplying a subscription list of some 40,000. The telephones in all the western Provinces were purchased from the Bell company and minor concerns at an aggregate cost of some $4,000,000, and they now represent a capitalization of at least three times that amount. In all of the Provinces where the telephone service was taken over from private corporations the money was supplied by the sale of provincial bonds.

SYSTEMS IN VARIOUS PROVINCES.

Manitoba differs from Saskatchewan and Alberta Provinces by having an independent telephone commission, the others having special government telephone departments. But not all the telephone lines are under the direct government management. While Manitoba guaranteed bonds of nearly $500,000 to construct rural lines, none of these were built during 1909. It is probable that the 10 existing lines will be taken over by the government. At the low rate of $20 per year the municipalities are content to let the government do the work.

In Saskatchewan the farmers' lines are built and owned by the farmers themselves. To encourage such construction the government grants a bonus on all telephone poles required.

During the past two years Manitoba has constructed over 500 miles of telephone connection and at least 2,000 miles of rural lines. Alberta has built 1,428 miles of long-distance and rural service;

and Saskatchewan has not only constructed 645 miles of long-distance wires, but has nearly 2,000 miles of rural lines.

The government of Alberta owns all the telephone lines and operates them. Alberta first initiated the government-owned service, the legislature of 1906 voting $25,000 for initial expenses, and a line was constructed from Calgary to Banff, nearly 100 miles. It is stated that the Bell charges for long-distance service up to 50 miles was one cent a mile in Alberta. Under the government-owned system the charge is just one-half this amount. In Manitoba there are now 112 exchanges, serving approximately 30,000 subscribers. When the system was taken over from the Bell Company there were but 14,000-odd subscribers, and the marvelous growth during these two years is pointed to as evidence of the success of the government-owned system. During the past year 2,500 new rural subscribers were added, bringing the list up to 9,000. This represents the number of farmers having telephones in their homes with direct long-distance connection with the large centers.

MUNICIPAL POWER PLANT.

WINNIPEG NOW BUILDING MODERN HYDRO-ELECTRIC WORKS.

From a description by Consul-General Jones of the constructions under way which are to utilize the hydraulic resources of the Winnipeg River the following points are taken:

The city of Winnipeg decided in 1905 to undertake the erection of a plant for generating electrical energy to supply its needs upon the expiration of the franchise now held by the Winnipeg Electric Street Railway Company. A careful examination was at once made of the hydraulic resources of the Winnipeg River, and the report of the engineers having been followed by the voting of $3,250,000, plans were begun in 1906. Some delays were experienced, during which only preliminary work was prosecuted, but early in 1909 contracts were awarded and their vigorous execution begun.

Since the winter began the closing of the river by means of a rock fill has been prosecuted, and already the upper waters have been raised several feet. The natural elevation of the upper river will be increased by the permanent works by 13 to 15 feet, giving to the total waterfall developed a head of 45 feet net. During the winter also work on the power house has proceeded under a huge frame shed; energetic progress has been made in the manufacture of the equipment, and the transmission lines were got fairly under way, advantage having been taken of the frozen condition of swamps through which the right of way leads.

SPECIAL FEATURES OF STATIONS AND GENERAL PLANT.

The site of the generating station, which has a capacity of 60,000 horsepower, is on the Winnipeg River about 95 miles by rail or 75 miles by transmission line northeast of Winnipeg. The location is ideal. At a point where the Winnipeg River, a sturdy stream of 3,000 yards' width, is narrowed by a spur of its eastern bank to a channel one-fourth mile wide, the river has been dammed by a wing wall of concrete and a rock fill. The water thus checked above the spur of land is released through a canal cut across this spur. At the end of this canal is the power house.

The prominent features in the design of this power house are that it is very compact and of the latest plan; it will be built entirely of

reenforced concrete; it will be fitted with wheel pits instead of steel flumes around the turbines, so that in a sudden stopping of the turbine gates the water instead of endangering the penstock will merely rise in the pit.

The undertaking when completed will consist of the following:

(1) A 60,000 horsepower generating station operating under 45 to 46 feet of hydraulic head. Important features are: (a) There is a large lake adjacent to the head gates, with consequent favorable operating conditions; (b) there are rock foundations for all constructions; (c) there is a difference of hydraulic level which will be practically constant; and (d) the water is free from salt or other objectionable matter. (2) A 77-mile transmission, consisting of four 3-phase circuits carried on two series of double-circuit steel towers with concrete footings. (3) A terminal station at the city at which the pressure of the current transmitted will be reduced to 11,000 volts. (4) An underground cable distribution to all substations where the voltage will be reduced to 2,200 volts. (5) A secondary underground and overhead distribution to customers.

Upon the completion of the plant electric power will be offered to manufacturers at attractive prices, and it is expected that there will be a considerable demand for it, as there are in operation in Winnipeg steam plants whose aggregate demand approximates 15,000 horsepower, and the rapid growth of the city, as well as the development of the vast country to the west, all tend toward a rapid increase in the application of electricity. On a fair estimate of the possible market for power from the civic plant, the prices to small users will be about 3 to 7 cents per kilowatt—a reduction of about one-third on the present prices.

GOVERNMENT ABATTOIR.

PLANS FOR A MUNICIPAL SLAUGHTERHOUSE AT WINNIPEG.

Consul-General Jones also writes on the probability of Winnipeg adding another industry to her list of municipal-owned institutions:

The lieutenant-governor of the Province of Manitoba in a recent communication to the provincial legislature, which may be taken as indicating the position of the provincial government, set forth the advisability of a government-owned abattoir, where small butchers could have their stock killed and dressed as needed and not be required to depend entirely upon private interests. Some time ago, a movement, which is the reflection of that prevalent in the United States against high prices, started in Winnipeg, with special reference to the meat industry; and the position of the government, closely following its manifest desire to have a system of government-owned elevators for the storage of grain, indicates at least its purpose to enter the field of municipal ownership. The lieutenant-governor said:

The growing importance of the live-stock industry of the Province necessitates immediate action along the lines of a public market and a municipally owned and operated abattoir, and you will be asked to grant substantial aid thereto.

GERMANY.

GOVERNMENT MINES AND SALT WORKS IN PRUSSIA.

From an official publication Consul-General Richard Guenther, of Frankfort, makes the following résumé of the operations of mines owned and operated by the State:

The coal and iron mines and the salt works owned and operated by the Kingdom of Prussia employed last year 89,723 men and

turned out products valued at $58,171,960, or about four per cent greater than the output of 1908. In tons of 2,204.6 pounds the products included 19,080,000 tons of black coal, valued at $53,411,960; 400,000 tons of lignite, valued at $299,880; 173,682 tons iron ore, $2,691,780; and 560,000 tons of salt, $1,720,740. The value of stone and earth taken from state quarries was $573,580, and of amber $535,500.

The State also owns and operates five rolling mills and seven factories producing metallic wares. These employed 6,195 men and turned out $5,869,080 worth of products. The net earnings of all of the government mines and works were $3,841,320, a sum $2,158,660 less than the estimates. Various causes account for this shortcoming, among them being the large expenditures incurred for securing greater safety, something considered necessary owing to the accidents which have recently occurred in coal mines of Westphalia and the Saar district. New plants, repairs, and improvements required large sums, while prices of some products have declined. The cost of production has generally increased, and expenditures under the labor-protective laws have also become greater.

SWITZERLAND.

OPERATION OF RAILWAYS, EXPRESS, TELEGRAPH, TELEPHONE, ETC.

Consul-General R. E. Mansfield, of Zurich, states that the Swiss Confederation has taken more advanced steps in government ownership of public utilities than any other European country. He summarizes:

The Swiss Government now owns the majority of the railway mileage of the country, regulates and controls the traffic rates on all railways, manufactures all equipment, except rails, for all of the railways; owns and operates the telegraph and telephone systems, for which it manufactures all the equipment, thereby securing a uniformity of instruments and apparatus. There is a free mail delivery, including rural districts; a parcels post, by which anything from a spool of thread to a locomotive may be forwarded; and a post-office banking system, designated as post check.

[The Swiss railway system has recently been described in Consular and Trade Reports. Mr. Mansfield's other references to public utilities follow:]

The Swiss postal service, which includes rural free delivery, is very efficient. There are 3,907 post-offices in the Confederation, and 14,226 people are employed in handling the mails. The cost of transporting the mails last year was $1,800,000, and the salaries of employees amounted to $5,920,000. There were delivered in Switzerland during the year 140,000,000 letters, 74,000,000 post cards, 168,000,000 newspapers, and 52,000,000 pieces of other printed matter. The sale of stamps last year amounted to $8,600,000, and the net profit to the Government in the post-office department was $590,600.

The combined length of the telephone and telegraph lines is 14,717 miles. There are 2,255 telegraph offices, which, in 1908, handled 4,942,000 telegrams. The amount of business at the four largest cities in the Confederation was: Zurich, 823,000 telegrams; Basel, 474,000; Geneva, 395,000; Berne, 240,000. The revenue from tele-

grams last year amounted to $680,000. There are 60,494 telephone subscribers in Switzerland, and in the combined telegraph and telephone service there are 4,544 employees, who receive in salaries $1,100,000 annually.

The State Central Bank was established in 1907; the capital is partially private. One of its important functions is the regulation of international finances and maintenance of Switzerland's financial equilibrium. It has the authority to issue paper money, and the national-bank issue up to January 1, 1909, was $40,811,000.

POSTAL CHECKS AND DRAFTS.

SUCCESS OF THE SYSTEM IN GERMANY AND AUSTRIA-HUNGARY.

The following information concerning the working of the postal-check system in Germany and Austria is furnished by Consul Talbot J. Albert, of Brunswick:

The success of the German postal-check system has exceeded expectations. It began operations on January 1, 1909, with 8,000 accounts, and closed the year on December 31, 1909, with 36,427 accounts. During the year the value of the transactions amounted to $2,380,000, a result which it took the Austrian postal-check service almost 20 years to attain. To-day the Austrian service has upward of 82,000 accounts, and the transactions amount in value to $4,284,000. The prosperity of the Austrian service has been promoted by the postal savings-bank system of that country. Postal savings banks have not been introduced into Germany as yet, through fear of injuring private savings banks, agricultural loan and savings unions, and the communal savings banks. But it is believed that this fear is groundless, and that the introduction of a postal-bank system into Germany would stimulate deposits generally and reach classes who now hide their savings through fear to trust them out of their own possession. A government savings-bank system would inspire confidence in these classes and give life to otherwise dead capital.

The allowance of interest on postal-check accounts in Austria has also contributed to its popularity, but the charges for the transfer of money in Germany are less than those in Austria, and this helps to equalize differences. In Germany the charge for sending a check for 1,500 marks ($357) from Brunswick to Berlin is 7 cents if the sender has an account at the post-office. If both parties have accounts it is only 4 cents. It is expected that in 20 years the postal-check service in Germany will have 150,000 accounts and annual transactions of $7,000,000 to $10,000,000.

GIRO ACCOUNTS—POSTAL-CHECK OFFICES.

A "Giro account" is a bank account with a minimum balance. White and red checks are used. The former is the customary check used in the United States, payable to order or bearer; the red check is an order on the Reichsbank, or one of its numerous branches, to transfer a sum of money to the account of the firm named on the face of the check, which has also an account with the same bank, and to

charge the sum of money to the account of the drawer of the check. The check is sent to the bank and not to the firm, which is notified by a letter from the maker of the check. Commercial business is transacted by the use of these red checks, and the system of the transfer of moneys of different accounts by a single national bank operates like the clearing-house system in the United States, which is unknown in Germany. The postal-check service supplies the same facilities to the small dealers and merchants as those enjoyed by the large commercial houses through the Reichsbank, and they now settle their business transactions by postal checks on their giro accounts with the post-office as they formerly did by cash and postal money orders.

In Austria there is only one postal-check office; in Germany there are nine, situated in the largest cities, and there is a demand for an increase in the number of offices; and it is believed such increase would add to the popularity of the service.

INTERNATIONAL POSTAL-CHECK SERVICE.

The success of the different national postal-check services has been so great that it is thought the system ought not to be confined to single countries, but that it ought to be extended so that merchants and manufacturers can settle accounts with foreign customers. The Swiss were the first to undertake this extension. The Swiss Bank Union in London has opened an account with the postal-check office at Basel by which business transactions can be settled. This service, which was first confined to London, has been extended to Great Britain and Ireland.

In the establishment of an international postal-check service the countries which will first come into consideration are Germany, Austria, Hungary, and Switzerland. Later on France will be considered, which has the intention of introducing a similar postal check and Giro bank system. The greatest difficulty in the way of establishing an international postal-check service is the question of the rate of exchange—whether this from time to time shall be fixed, or whether it shall depend on the existing daily fluctuating rates. The Middle European Commercial Union has taken hold of the matter of establishing an international postal-check service and is in communication with the different national administrations. The affair has progressed so far, it is believed, that an international arrangement will soon be reached.

AUSTRIA-HUNGARY.

EXTENSION OF THE POSTAL SAVINGS BANK CHECK SYSTEM.

Consul Joseph I. Brittain, of Prague, furnishes the following additional information concerning the postal savings bank check system of Austria-Hungary:

On February 1, 1910, the postal savings bank check system of Austria was extended to Germany and Switzerland, and now all persons who are members of the service in one of these countries

who desire to forward money to a member of the service in either of the other countries named may do so by requesting the postal savings bank check service where he resides to pay to the person designated in the other country the amount of money he wishes to remit.

If the person to whom the money is due wishes, he may merely have the amount placed to his credit in the central postal savings bank in the country in which he resides, or when he wishes to have the amount paid out to him the sender may instruct the postal savings bank check service and the amount will be paid to the designated person in the other country. In this manner all bother and expense of obtaining a money order are avoided, and so long as the money remains to the credit of the member of the check service the owner of the account receives interest from the Government.

Since 1906 the Austrian savings bank check service has had an agreement with Germany, Italy, Great Britain and Ireland, Switzerland, and France by which it can remit money through the medium of the Deutsche Bank, Banca Commerciale Italiana, the London branch of the Austrian Laenderbank, the Schweizer-Creditanstalt, and the Societe Generale, but the recent agreement places the service between Austria, Germany, and Switzerland upon practically the same basis as is the service between different points in Austria. From May, 1906, to December 31, 1908, $15,631,000 have been deposited, in the foreign countries mentioned, to the credit of persons having accounts with the Austrian postal savings bank check service, and during the same period $22,127,000 have been paid out by the Austrian officials through the check service to the foreign countries named, making a total of $37,758,000, representing 239,624 business transactions.

Aside from Austria-Hungary, Germany, and Switzerland, Japan is the only other country which has adopted the postal savings bank check service.

MEXICO.

POST-OFFICE SYSTEM OF COLLECTING BILLS.

The following mention of changes in the Mexican postal-draft system is from the Mexico Daily Herald:

Among the improvements which are scheduled in the postal department, one of the most important is that of the suppression of newspaper postal drafts. According to the project of Postmaster-General Dominguez, the service of postal drafts will be extended to the public in general. Heretofore only newspapers were allowed to draw on their subscribers and debtors, and this only once a month, according to a list which they had to submit on the first days of each month, but now with the reformation in the service, newspapers will be allowed to make drafts at any time during the month whenever such drafts are in bunches of five or more, and for the general public no limitation as to the number is made.

Furthermore, according to the new system, the time for the collection or rejection of such drafts will be greatly diminished, as local postmasters will be given only seven days in which to attend to the drafts in place of a term of four months heretofore granted, and still further the improvements will reach such a reduction in the cost that it may be safely calculated at a reduction of 50 per cent. The extension of this service to the general public will greatly benefit the small merchant and commerce in general.

EMIGRATION AND IMMIGRATION.

ENGLAND.

EXODUS FROM NOTTINGHAM TO CANADA AND UNITED STATES.

Consul Frank W. Mahin, of Nottingham, furnishes the following information concerning emigration from that English district to Canada and the United States:

Over 500 men and women of this city and immediate vicinity booked passage for Canada, to sail during March and April. The emigration thither from this district is larger than ever before. The present emigrants comprise, as hitherto, farmers and farm laborers, who have already secured land or work in Canada or are driven hence by adverse fortune with nothing definite in view; but there is an unusual proportion of workmen in a large variety of trades, who are attracted by reports of high wages in Canada or impelled by the difficulty of securing regular employment here.

Among the booked emigrants are over 100 women and girls, many of them collected, it is said, by agents of Canadian hosiery firms to work in their factories. This is remarkable, in view of the fact that the local hosiery trade is now exceptionally prosperous and all the factories are working at high pressure, with the prospect of a long continuance of this condition.

It is said that special efforts are made to induce women to go to Canada.

A considerable number of hand-machine hosiery workers are leaving this vicinity for the United States. Some of them, it is said, will take their machines. Formerly this industry was important and profitable to the workers here, but the development of factories has so reduced it that the average earning of an operator is barely $5 a week. These emigrants hope to make $25 or $30 a week in the United States, where, it is believed, certain specialties can be made profitably—ties and motor "clouds" being particularly mentioned.

CANADA.

NEW REGULATIONS AFFECTING IMMIGRANTS.

Consul Felix S. S. Johnson, of Kingston, furnishes the following published Canadian immigration announcement:

An order in council has been passed providing that any immigrant, male or female, entering Canada, including persons coming from across the border, between March 1 and October 30, must have in his or her possession at the time of arrival at least $25 in cash, in addition to a ticket or such sum of money as will purchase transportation to the said immigrant's destination in Canada. It is also provided that if an immigrant is head of a family, and is accompanied by members of such family, he or she must have a further sum of money equivalent to $25 for each member of the family of 18 years or upward, and $12.50 for each member of said family between 5 and 15 years of age, in addition to tickets or a sum of money equivalent to the cost of transportation to their place of destination in Canada. Between November 1 and the last day of February it is required that each immigrant must have in cash double the amounts mentioned above. Immigration agents may exempt any immigrants from the operation of the foregoing regulations if it is shown that they are going to assured employment at farm work or as domestic servants, and have means of reaching the place of such employment.

BRAZIL.

DECREASED IMMIGRATION DURING THE PAST YEAR.

Vice-Consul-General Joseph J. Slechta, of Rio de Janeiro, says that the total number of immigrants into Brazil in 1909 was 76,137, a decrease of 9,279 as compared with 1908, due, it is said, to the tendency of some European governments to discourage emigration.

Southern Brazil continues to draw the largest portion of the immigrants, over 92 per cent of the whole entering at the ports of Santos and Rio de Janeiro. Practically all those entering at Santos remain in the State of Sao Paulo, and a large proportion of those entering at Rio de Janeiro are destined for Sao Paulo also.

Of the total number of immigrants, 23,895 placed themselves at the disposition of the Federal Government, at the expense of which they were housed at five ports of entry, and sent to various "nucleus" colonies, where they were installed on small plots of land, mostly in the States of Rio de Janeiro, Sao Paulo, Minas Geraes, and Parana. The Federal Government paid transportation charges for 15,879 immigrants who traveled in coastwise vessels; 14,520 traveling by rail, and 12,179 who were transported from railway stations or ports by wagon to the various colonies. All arrivals with families, and with bona fide intentions of taking up agricultural pursuits, were located on lands in colonies, either by the different States or by the Federal Government.

Figures for emigration from Brazil are not yet published, but registrations for portions of the year in the port of Santos indicate that the movement was heavy, and that the total was almost if not quite equal to the total coming into Brazil. This movement outward is largely ascribed to the migratory tendency of the Italian population, a large part of which consists of temporary laborers on the coffee plantations, who come from the Argentine Republic, and who either return to that country after the end of the coffee-picking season or go to the United States for the wheat-harvesting season.

FIRES IN BELGIUM.

INSURANCE LAWS PROTECT NEIGHBORS AND PREVENT INCENDIARISM.

The laws of insurance in Belgium have some features of special interest well worth careful study, which Consul-General Henry W. Diederich, of Antwerp, epitomizes:

The law of 1874 wisely provides for covering neighbors' risks by which all persons occupying a house or an apartment are not only personally liable for all damage caused to property of which they are tenants, but also for property of neighbors damaged by fire originating on their premises. Furthermore, the adjustment of risks and payment of premiums is so controlled by courts and experts that no advantage can be gained by committing incendiarism. The insurance laws protect not only the policy holder but also the insurance companies, so that, by virtue of the mere existence of these laws, the people have been trained to exercise the greatest care whenever any danger of fire arises. This extends not only to householders and other tenants, but to builders and contractors and all trades connected with building and fitting, thus reducing fire risks to a very low minimum, as will be seen by the statistics for 1908, published by the Antwerp

fire department, which is equipped with the latest engines and appliances for combating all fires, large and small, and for saving human lives. It is manned by efficient officers and gallant and experienced men, mostly drawn from those who have served in the regular army.

The city, excluding the suburbs, has a population of about 324,000, and is served by seven fire stations, only four of which are equipped with steam engines, as the city is amply provided with hydraulic power. The other three stations are supplied with all other up-to-date means of coping even with the greatest conflagration. Besides these seven stations, there are nine steam fire tugs, with powerful pumps, for service in the region of the docks and the river. The force employed includes four officers and 131 men. For 1908 the total cost of the fire department per inhabitant was $0.38, and the total loss of property per capita $0.49, of which the value of uninsured property amounted to $0.12 per head. The total number of fires requiring the service of the department was 431, of which 102 were small affairs, leaving a total number of 329 serious fires, less than one per day.

ACCIDENT INSURANCE IN GERMANY.

OFFICIAL STATISTICS COVERING RESULTS FOR A DECADE.

Consul-General Robert P. Skinner, of Hamburg, in reply to an inquiry from Indianapolis as to the working of accident insurance in Germany, says:

The question is asked whether the cost of accident insurance is added to the price of articles consumed and whether employers consider the law a burden upon themselves. The cost of insurance, naturally, must be paid by somebody, and inevitably is figured in as a part of the general expense of production, paid eventually by the consumer. This, in turn, adds so much to the cost of living, which, owing to this and a variety of causes, has increased greatly in Germany—more so, perhaps, than in most European countries. It is not apparent that employers consider the law respecting accident insurance in particular to be more of a burden than the regulations which preceded this law in regard to industrial liability. Public sentiment approves of compulsory accident insurance, and this sentiment is general, not only among the working classes but among all classes of society.

The inquirer's conviction that, under the German law, the number of industrial accidents tends to decrease is not confirmed by imperial statistics, which show, on the contrary, that the total number of accidents has increased from 5.30 per 1,000 persons insured in 1898 to 6.77 per 1,000 in 1907. To what extent this is attributable to a more intense activity in manufacturing enterprises, and to what extent due to the carelessness of the assured, can not be stated. The only decrease, under the head of accidents, observable in the statistics relates to such as resulted in total disability. The total number of such accidents has been practically stationary since 1898, having decreased steadily from 0.22 per 1,000 insured in 1889 to 0.07 in 1899.

SYSTEM INCLUDES ALL WORKMEN.

Practically all persons employed as laborers and in the trades in Germany are insured under the prevailing accident insurance law.

In 1906 there were 20,727,213, but of this number about 1,500,000 were counted twice, being employed both in agricultural and industrial establishments. It may be assumed that the total number of insured has not varied greatly since that year.

The following are the official statistics of the empire in regard to accidents occurring among persons who are thus insured:

Fiscal years.	Number of cases.					Per 1,000 insured persons.				
	Total.	Killed.	Disabled—incapable of earning living.			Total cases.	Killed.	Disabled—incapable of earning living.		
			Permanently.		Temporarily.			Permanently.		Temporarily.
			Wholly.	Partly.				Wholly.	Partly.	
1898	96,774	7,848	1,109	47,764	40,053	5.30	0.43	0.06	2.62	2.19
1899	104,811	7,999	1,297	51,240	44,275	5.63	.43	.07	2.75	2.38
1900	106,447	8,449	1,366	51,111	45,521	5.63	.45	.07	2.70	2.41
1901	116,089	8,359	1,416	54,340	51,974	6.15	.44	.08	2.88	2.75
1902	119,901	7,842	1,396	55,264	55,399	6.28	.41	.07	2.90	2.90
1903	127,947	8,236	1,517	58,129	60,065	6.57	.42	.08	2.99	3.08
1904	136,126	8,552	1,578	62,563	63,433	6.85	.43	.08	3.15	3.19
1905	139,787	8,757	1,476	63,530	66,024	6.91	.43	.08	3.14	3.26
1906	138,283	8,970	1,454	60,814	67,045	6.67	.43	.07	2.93	3.24
1907	143,356	9,670	1,341	59,586	72,759	6.77	.46	.06	2.81	3.44

[Consul-General A. W. Thackara, of Berlin, reports under date of January 13, 1910, that the Director of the Reichstag had informed him that a draft of a bill for the reorganization of the sick benefit insurance laws of Germany was then under preparation by the authorities, and would be ready for publication about March 1.]

PANAMA MERCANTILE REGULATIONS.

NEW MUNICIPAL DECREE REGARDING WEIGHTS AND MEASURES.

Consul-General Alban G. Snyder, of Panama, sends the information that in order to prevent dishonest practices on the part of merchants in falsifying weights and measures on certain articles the mayor of the city of Panama has issued the following decree:

(1) Pieces of cloth, ribbons, and all articles sold by measure must be plainly and clearly marked so as to show their exact measurement.

(2) The covering of articles sold by weight must have marked thereon the gross weight of the package, as well as that of the cover, so as to be easily noted.

(3) Barrels, kegs, etc., in which all liquids sold by contents are kept must likewise bear the quantity contained in plain figures.

(4) Boxes, packages, etc., containing articles, the price of which is according to undetermined quantities, must be marked with the exact quantity of the article contained in each package.

(5) Commercial houses are under obligations to so mark all stock in compliance with the preceding articles. Merchants from the interior arriving in the city are under similar obligation prior to disposing of the goods belonging to them.

(6) Violators of these ordinances are subject to a fine of from $5 to $20, according to the decision of the mayor. Parties marking their goods falsely are, in addition to being punished by the penal code, liable to a fine of from $40 to $50, according to the gravity of the offense.

(7) All persons are at liberty to denounce any infraction of these rules, the denouncer being entitled to one-half of the fine imposed in each case.

CHILEAN BANKING INTERESTS.

BILL PROPOSED IN CONGRESS TAXING FOREIGN INSTITUTIONS.

Consul Alfred A. Winslow, of Valparaiso, reports that the question of foreign banks in Chile is being seriously discussed, and from statements recently published it would appear that the foreign banks are gaining much more rapidly than the banking institutions of the country. The consul briefly reviews the situation:

On June 30, 1905, the deposits in the foreign banks in Chile amounted to $18,670,654 United States gold, against $36,510,000 for the Chilean banks at the same time; while on October 30, 1909, the foreign banks held $42,495,252 in deposits, against $55,480,000 in the Chilean banks. This shows that the deposits increased more than 100 per cent in the foreign banks during little more than four years, while the Chilean banks showed a gain of little more than 50 per cent. A bill has been introduced into Congress which proposes to impose a tax of three-tenths of 1 per cent on the entire capital employed by foreign banks in Chile, whether the stock is held in Chile or not. It is claimed this is to be done in order to put them on the same footing as the native banks so far as the payment of taxes is concerned. Heretofore, foreign banks have been able to avoid the payment of this tax because most of their capital was held by Europeans.

The foreign banks have done much for the development of the country, and in general, are appreciated by the public. They have a good future before them, from present indications. The country needs millions of dollars of foreign capital to develop its immense natural resources, and the foreign banks are recognized as channels through which this can be safely invested. They have also done much for the foreign trade of their respective countries. At first English banks took the lead in this country, and England had the bulk of the business, but later German banking interests have been pushing in this field, and now Germany is a close second for the business of Chile. American interests should take note of this and make sure of a strong chain of American banks in the business centers of South America, through which American business can be transacted and American capital can be safely invested.

NEW GERMAN STOCK COMPANIES.

RENEWED ACTIVITY IN ORGANIZING BUSINESS CONCERNS IN THE EMPIRE.

Consul Thomas H. Norton, of Chemnitz, says that the investment of capital in new corporations, industrial, and commercial, shows that Germany has fairly recovered from the panic of 1907. His review follows:

The number of joint-stock companies organized in 1909 was 182, with a total capittal of $54,000,000, against 157 companies with $42,000,000 in 1908, and 240 companies with $78,000,000 in 1907. Only three of the companies organized in 1909 possess capital in excess of $2,500,000. One is a bank for financing electrical industries, with a capital of $6,000,000; another a coal company, capital $5,000,000; and the third a hardware manufacturing company at Duisburg, capital $2,500,000. On August 1, 1909, the stamp duty on shares of

such companies was increased from two to three per cent. This may possibly have since checked the organization of new companies.

The average amount of capital per company during the past three years is $300,000. During the closing decade of the last century it was $275,000, and in the preceding decade, 1881–90, it was $240,000. During the decade 1891–1900, on an average, 202 stock companies were founded annually.

During 1909, 3,581 new limited companies or firms were registered in Germany, with a total capital of $96,500,000. This compares favorably with 3,086 similar companies in 1908, capital $87,000,000, and 2,618 companies in 1907, capital $81,800,000. Among these limited companies organized in 1909 were 10 with capital in excess of $250,000. The most noteworthy were a shipping company, capital $1,430,000, and a bank at Stuttgart, capital $950,000.

The foregoing harmonizes with several other statistical results of 1909 to show that Germany is not only well over the results of the temporary setback of 1907–8, but is also progressing steadily in the development and enlargement of industrial plant and commercial equipment.

ACCIDENTS TO WORKMEN.

COMPARATIVE DANGER IN VARIOUS GERMAN INDUSTRIES.

Consul Thomas H. Norton, of Chemnitz, says that in the German plan to insure workmen against accidents elaborate data have been collected on the relative likelihood of such accidents in the various trades.

The following figures give averages for several years past. They represent the number of annual accidents in several callings per 1,000 workers sufficiently serious to establish right to the legal rates of insurance provided by German law. Data are given only for the most dangerous and the least dangerous vocations:

Occupation.	Accidents per annum per 1,000.	Occupation.	Accidents per annum per 1,000.
Carters and drivers	22.87	Iron and steel workers	11.61
Millers	15.93	Building industries	11.42
Quarrymen	15.67	Sugar mills	10.82
Canal and river boatmen	14.73	Warehousemen	10.01
Miners	14.69	Textile operators	3.10
Excavators, tunnel workers	13.95	Printers	2.81
Woodworkers	12.71	Clothing operatives	2.30
Brewers	12.29	Tobacco workers	.54

The opinion has long been prevalent that the miner is exposed to more danger than workers in other occupations. As is readily seen from the above, under German conditions at least, there are several other callings in which the average risk of accident is materially higher.

FOREIGN TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

CANADA.

COMMERCIAL ARRANGEMENT WITH THE UNITED STATES.

In return for the extension of our minimum tariff to Canadian products by presidential proclamation of March 30, 1910, Canada has reduced the rates of duty on certain products when imported from the United States. For these items the rates of the so-called "intermediate tariff," which heretofore have been restricted to the products of a few countries, have been made general in their application.

The intermediate tariff comprises a schedule of duties lower than the general tariff but higher than the preferential rates accorded to the United Kingdom and reciprocating British colonies. Up to the present the intermediate rates have been accorded in part to France by the Franco-Canadian convention (published by the Bureau of Manufactures as Tariff Series 6 C). The concessions made by that convention were also extended to the following countries, which thus receive "most-favored-nation" treatment: Argentina, Austria-Hungary, Bolivia, Colombia, Denmark, Japan, Norway, Russia, Spain, Sweden, Switzerland, and Venezuela, as well as those British colonies to which the British preferential rates have not been extended.

The articles on which the general rates have been reduced to the level of the intermediate tariff as a result of the recent negotiations between the United States and Canada are as follows:

[Abbreviation: n. o. p., not otherwise provided for.]

Tariff No.	Articles.	British preferential tariff.	General tariff.	
			Old rates.	New rates.[a]
		Cents.	*Cents.*	*Cents.*
94	Dates and figs, dried ..... per 100 pounds..	40	62½	55
99	Prunes and dried plums, unpitted; raisins and dried currents ..... per pound..	½	1	½
109	Almonds, walnuts, Brazil nuts, pecans, and shelled peanuts, n. o. p. ..... per pound..	1½	3	2
112	Nuts of all kinds, n. o. p. ..... per pound..	1½	3	2
180	Photographs, chromos, chromotypes, artotypes, eleographs, paintings, drawings, pictures, decalcomania transfers of all kinds, engravings or prints or proofs therefrom, and similar works of art, n. o. p.; blueprints, building plans, maps and charts, n. o. p	*P. ct. ad val.* 15	*P. ct. ad val.* 25	*P. ct. ad val.* 22½
228	Soap powders, powdered soap, mineral soap, and soap, n. o. p	22½	35	32½
234	Perfumery, including toilet preparations, nonalcoholic, viz: Hair oils, tooth and other powders and washes, pomatums, pastes, and all other perfumed preparations, n. o. p., used for the hair, mouth, or skin	25	35	32½
287	Tableware of china, porcelain, white granite, or ironstone	15	30	27½
318	Common and colorless window glass	7½	15	12½

[a] These rates are the same as those of the intermediate tariff.

Tariff No.	Articles.	British preferential tariff.	General tariff.	
			Old rates.	New rates.
		P. ct. ad val.	*P. ct. ad val.*	*P. ct. ad val.*
366	Watch actions and movements, and parts thereof, finished or unfinished, including winding bars and sleeves	10	15	12½
604	Dongola, cordovan, calf, sheep, lamb, kid or goat, kangaroo, alligator, and all leather, dressed, waxed, glazed, or further finished than tanned, n. o. p.; harness leather, and chamois skin	12½	17½	15
634	Feathers and manufactures of feathers, n. o. p.; artificial feathers, fruits, grains, leaves, and flowers suitable for ornamenting hats	20	30	27½
711	All goods not enumerated as subject to any other rate of duty, and not otherwise declared free of duty, and not being goods the importation whereof is by law prohibited	15	20	17½

The principal articles in the trade between the United States and Canada which are included in the general item (711) are cotton-seed oil, sausage casings, magnesia, camphor gum, lime, and sponges. Other products which have received the same classification for customs purposes are: Floor wax, insecticides, mineral water, various manufactures of celluloid, corn oil, perolin (dust absorbent, used in sweeping), cut flowers, and comb foundations for beehives.

ARGENTINA.

CUSTOMS EXAMINATION OF EXHIBITS FOR RAILWAY EXPOSITION.

Minister C. H. Sherrill sends a translation of a presidential decree, dated February 11, 1910, intended to facilitate the admission, duty free, of articles into Argentina for the forthcoming International Railway Exposition at Buenos Aires. The postponement of customs examination until after removal to the exposition grounds is authorized in the case of articles which on account of weight are difficult to examine at the docks or warehouses. Otherwise the provisions of the decree of January 30, 1910 (see Monthly Consular and Trade Reports for April), remain in force.

BRITISH INDIA.

INCREASED DUTIES ARE IMPOSED.

Consul E. Haldeman Dennison, of Bombay, reports as follows on the recent increase in the import duties of British India:

The government of India introduced a bill into the viceroy's council on February 25, 1910, amending the Indian tariff act of 1894 and raising the import duty on spirits, wines, tobacco, petroleum, and silver; the bill was passed on March 4, 1910, and made retroactive from February 25.

The increase in revenue was rendered necessary partly by the decrease in the opium revenue, in consequence of the present arrangement with China, and partly by the settlement with the new province of Eastern Bengal and Assam.

The import duty on petroleum has been raised from 1 to 1½ annas a gallon, or 50 per cent. This is practically tantamount to protection for the Burma petroleum companies, which now supply one-half of the Indian consumption.

American cigarettes will suffer most from the new tobacco duties.

The duty on silver has been raised from 5 per cent ad valorem to 4 annas an ounce. It is feared that this will seriously affect Bombay's yarn trade with China, and has already forced down the value of silver and lowered the rate of exchange with China.

[Rupee=16 annas=$0.32441. Imperial gallon=4 imperial quarts=1.2003 United States gallons.]

Articles.	Per—	Duties.	
		New rates.	Former rates.
Liquors:		*Rs.* *a.*	*Rs.* *a.*
Ale, beer, and porter	Imperial gallon or 6 quart bottles.	0 3	0 2
Cider and other fermented liquors	do		
Liqueurs and sweetened spirits, cordials, bitters, perfumed spirits, and toilet preparations containing spirit.	do	13 0	(*a*)
Spirit which has been rendered effectually and permanently unfit for human consumption.	Ad valorem	5 per cent.	5 per cent.
Spirit used in drugs, medicines, or chemicals.	Imperial gallon or 6 quart bottles (London proof).[b]	7 13	(*c*)
Spirit, other sorts	do	9 6	7 0
Wines:			
Champagne and all other sparkling wines not containing more than 42 per cent of proof spirit.	Imperial gallon or 6 quart bottles.	3 12	2 8
All other sorts of wines not containing more than 42 per cent of proof spirit. Provided that all sparkling and still wines containing more than 42 per cent of proof spirit shall be liable to duty at the rate applicable to spirit, other sorts.	do	1 8	1 0
Opium and its alkaloids	Ser of 80 tolas[d]	24 0	[e] 24 0
Tobacco:			
Unmanufactured	Pound	1 8	Free.
Cigars	do	2 8	5 per cent ad valorem.
Cigarettes weighing less than 3 pounds per thousand.	Thousand	5 0	(*f*)
Cigarettes weighing 3 pounds or more per thousand.	Pound	2 0	(*f*)
Manufactured, other sorts	do	1 10	5 per cent ad valorem.
Silver bullion or coin, except current coin of the government of India, which is free.	Ounce	0 4	Do.
Petroleum, including naphtha, gasoline, etc.[g]	Imperial gallon	0 1¼	0 1

[a] Liqueurs, 10 rupees; perfumed spirits, 11 rupees per imperial gallon, or 6 quart bottles.
[b] Duty increased or reduced in proportion as strength of spirit exceeds or is less than London proof.
[c] When less than 20 per cent of spirit of the strength of London proof, 5 per cent ad valorem; when 20 per cent or more, 7 rupees per imperial gallon (London proof).
[d] 2.056 pounds.
[e] Opium not covered by government pass.
[f] If not exceeding in value 8 rupees per 1,000, 5 per cent of the tariff valuation of 2 rupees per pound; if exceeding in value 8 rupees per 1,000, 5 per cent of the tariff valuation of 7 rupees 8 annas per pound.
[g] Petroleum with flashing point not below 200° F. for batching fiber or lubricating, and petroleum with flashing point not below 150° F. for use as fuel or sanitary purpose, 5 per cent ad valorem.

CUBA.

INCREASED RATES OF DUTY RECOMMENDED.

A translation of a special message of President Gomez to the Cuban Congress, dated January 21, 1910, has been transmitted by Special Agent Butman. The message recommends increases in a number of import duties, especially those on shoes, paper, vermicelli, soap, essences, crackers, chocolate, bottles, tiles, and laces.

FRANCE.

NEW TARIFF IN EFFECT.

The new French tariff, as well as the act legalizing the recent concessions to the United States (see Monthly Consular and Trade Reports for April), went into effect April 1. Copies of the tariff law as finally enacted, and of the law and decree putting into effect the concessions on imports from the United States, are on file at the Bureau of Manufactures and may be consulted by persons interested. The complete text of both these laws, translated into English, will shortly be published.

JAMAICA.

REDUCED DUTIES ON MINERAL OILS.

Consul Frederick Van Dyne, of Kingston, reports that the Jamaica legislative council on March 24, 1910, adopted an amendment to the tariff law of the colony continuing in effect the reduced duties (4d. per imperial gallon) on petroleum and its products.

MEXICO.

REDUCED RATE ON WHEAT CONTINUED.

Consul A. B. Garrett reports under date of March 15 that, owing to the continued scarcity of wheat in Mexico, the Government has decided to extend the time in which wheat may be imported at 1 centavo per kilo to September 1, 1910 (peso=100 centavos=49.8 cents). There were at the time he wrote 100 carloads of American wheat at Nuevo Laredo for interior points in Mexico.

NORWAY.

INSPECTION OF IMPORTED MEAT.

Minister H. H. D. Peirce quotes a bill that has been introduced into the Norwegian parliament, requiring the inspection of all meat imported, whether or not previously inspected in the country of origin:

All meat imported from abroad, whether it be in the form of whole carcasses or cut up and slightly salted, if intended for human food, shall be examined by the municipal controller of meat; the King may fix a fee which shall be applied toward covering such expenses as may be caused by the said control; the King may further decide to permit the importation of meat only at certain specified cities.

PERU.

AMENDMENT OF PATENT LAW.

Vice-Consul C. Hamilton Jones, Callao, Peru, reports that the patent law of 1896 has been amended by executive decree dated February 11, 1910, as follows:

1. Every patent for which the fee is not paid and the title delivered within thirty days subsequent to the date it was passed shall be considered void.

2. Patents passed prior to the date of this decree are subject to its provisions, but ninety days are allowed in which to perfect the titles.

The date from which the term of the patent runs is accordingly fixed and can not be postponed at the option of the patentee.

SERVIA.

PROHIBITION OF IMPORTATION OF VINEGAR ESSENCE.

Consul Robert S. S. Bergh, of Belgrade, forwards a Servian decree, dated February 14, 1910, prohibiting the importation of vinegar essence. Shipments then on their way were to be admitted only when diluted to the strength of vinegar and, in that event, at the import rates imposed on vinegar. It is suggested by the consul that there is an opening for considerable importation from the United States of calcium acetate, or acetate of lime, which is the chief raw material used in manufacturing vinegar essence.

URUGUAY.

PROPOSED TARIFF REVISION.

Consul Frederic W. Goding, of Montevideo, sends a statement concerning the proposed tariff revision in Uruguay. At the time of writing, a bill based on investigation covering more than a year was about to be introduced into the House of Deputies.

In order to simplify the schedule, single specific duties will be substituted wherever possible for the rates of the present "general" tariff, as supplemented by the 5 per cent additional duty imposed by law of January 5, 1888.

The rates are to be readjusted without altering materially their general level. Where previous duties hindered importation and gave rise to smuggling, a decrease is proposed, which will be offset by increases on articles able to bear a higher duty than that heretofore imposed. The actual needs of the various products have been closely studied by a special commission of experts.

A fuller classification has been made, with the result that the number of groups and also of items has been largely increased.

VENEZUELA.

TARIFF CONCESSIONS TO FOREIGN COUNTRIES.

By the decree of March 16, the Venezuelean Government has granted the following concessions to countries which are not entitled to most-favored-nation treatment in virtue of a commercial treaty, but which admit free of duty, or at the lowest rates, the natural products of Venezuela. Canned goods, shrimps, oysters, and canned corn, the duty on which was raised by the decree of January 19 from 0.25 to 0.75 bolivar (bolivar=19.3 cents) per kilo (not including the surtax of 55 per cent of the duty), will continue to be admitted at the old rate, when imported from the above-mentioned countries. Red wines, in large or small bottles, when imported from the same countries are to be exempted from the surtax of 20 per cent ad valorem imposed by the decree of January 19. Imports from the United States to Venezuela are entitled to the above-mentioned concessions.

EXPORT BOUNTIES.

A presidential decree dated March 9, 1910, granting bounties on a number of unmanufactured products when exported from Venezuela,

has been transmitted by Consul Isaac A. Manning, of La Guaira. Exports to the West Indies and products enjoying special privileges under contract with the Government are exempted from bounty. Grants are made only on shipments exceeding a fixed quantity. The products affected and the rates of bounty are as follows:

On cane products—raw sugar, rum, and molasses—0.50 bolivar per quintal on the quantity in excess of 100 quintals in any one shipment. [1 bolivar=19.3 cents; 1 quintal=46 kilos=101.41 pounds.] On jute, sisal, ramie, manila hemp, and banana fiber, 1 bolivar per quintal in excess of 50 quintals in any shipment. On oranges, pineapples, mangoes, and other fruits, except plantains and bananas, 1.25 bolivars per quintal for excess over 100 quintals in any shipment. On sesame, peanuts, castor beans, and other oilseeds, 1.50 bolivars per quintal in excess of 50 quintals in any shipment. On rice, corn, tapioca, starch, and various starchy substances, 1.25 bolivars per quintal in excess of 50 quintals in any shipment. On beeswax, honey, lard, butter, wool, and cheese, 2.50 bolivars per quintal for excess over 10 quintals in any shipment. Salted meats and fish will be allowed a bounty equal to the value of the salt employed.

These bounties are conceded for a period of five years, from March 9, 1910, and then will be reduced 20 per cent each year.

MINING AND MINERALS.

GOLD DREDGING IN BOLIVIA.

RICH RESOURCES STILL UNTOUCHED IN LAND OF THE INCAS.

Secretary of Legation Alexander Benson sends from La Paz the following comprehensive account which he has prepared to show the excellent prospects for an American gold dredging enterprise in Bolivia:

It has been known for some years that the interior of Bolivia is one of the richest unexplored gold fields in the world, and experts of wide experience have prophesied that once this country is opened up, it is likely to be the center of the world's gold supply. The immense difficulties, however, that have beset the steps of explorers and prospectors have left these auriferous regions practically untouched by modern miners.

Since the times of the Incas, rough trails have existed between the ancient Inca centers of Titicaca and Cuzco and the deep forest-clad ravines of the Eastern Cordilleras, which culminate in the important river of Kaka, close to the small village of Guanay. The most important of these precipitous valleys have been formed by the rivers Tepuani, Mapiri, Challana, and Coroico. It is accepted that the ancient trails leading into these valleys were built by the Incas for extracting gold from the immense deposits of gravel existing in every one of these valleys. So thoroughly did the ancients work these auriferous regions that almost every yard of gravel that could be worked by primitive methods, and without the aid of modern machinery, has been worked out. The labor expended must have been immense, and the results astonishing, judging from results in isolated workings in recent times. These instances are rare because no organized attempt, supported by capital, has ever been made to exploit gravels which were beyond the power of the Inca miners to handle. These rare instances were in every case private parties, and it is difficult to obtain exact figures of the quantity of gold actually recovered. It is sufficient to say that large fortunes were made in a few years, and the rich retired owners refused to sell their half-worked-out claims for any reasonable sum. It is significant that gold taken out by those fortunate owners is spoken of, not by the ounce or pound, but by Spanish "arroba," the equivalent of 25 pounds avoirdupois.

SOURCE OF GOLD—CANYONS OF THE KAKA.

The origin of so much gold is still a matter of conjecture. It is probably derived from two principal sources. The first is the many

ancient glacial deposits in the high Cordilleras, a large proportion of which carry gold in varying quantities. Nuggets weighing as much as 52 ounces have been washed out, and it is on record that a huge mass of gold weighing 50 pounds was taken from one mine in former times by Spaniards.

The second source of gold is in the numerous veins of auriferous quartz that intersect in every direction. These veins are mostly too narrow and patchy for profitable working, but they are both rich and numerous. Many of the larger veins have been worked out by ancient miners, the evidence of whose industry is found in every part of the "quebradas" of the Mapiri and Tipuani, and even more so in the upper Yungas in the neighborhood of Coroico.

In any of the rivers mentioned it is rare that a pan of gravel, even from the surface, fails to wash out at least some trace of fine gold, and it is not uncommon to wash a pan of surface dirt in these rivers and find gravel averaging $1 a yard on the surface, which would indicate enormously valuable deposits below.

These upper rivers, difficult to work because of the great bowlders with which they are strewn, their torrential nature, and the mighty floods which sweep their course each year, form the river Kaka just below Guanay, and there, with its velocity only slightly diminished, the river runs through a succession of narrow canyons, giving the finer gold little opportunity to settle. After about 20 miles of these canyons, Incahuara is approached, and the hard Andean slates give place to a sandstone formation. This sandstone and conglomerate strata is evidently of recent formation, and its position and characteristics suggest in every way that this was the bed of a large ancient water course, which in earlier times carried off from the Andes a far greater amount of water than the Kaka now carries. It has been proved that these alluvial deposits, hardened now into a rock-like substance, also contained a considerable percentage of gold.

A NATURAL GOLD-SAVING TABLE.

Below Incahura the canyons of the Kaka give way to comparatively open rolling country, and the river widens out into great flats of shallow depth, and often a couple of miles wide, depositing its gravel in large islands and bars surrounded by sluggish backwaters and covered by dense vegetation. Here the current flows at only four miles an hour, and the gold and heavier particles of sand and gravel, which have never had a chance to settle in the turbulent torrents of the higher hills, find a sure resting place in the gravels of the river bottom. The islands formed change each year with every big flood, the lighter gravels and substances always working their way down river, and the heavier substances by a natural process continually concentrating at or near bed rock.

It would seem that here is a spot where is formed a natural gold-saving table for all the gold-bearing flooded rivers that emerge from the richest known part of the Andean Mountain chain. In addition, the river has worn down a course through a deep bed of auriferous sandstone and conglomerates, thus further concentrating the gold

contained in this old river bed. The effort has been made to show how valuable a district this is and its theoretic richness.

In order to prospect this district, the valuable part of which is constantly under water and therefore untouched by ancient miners, prospecting drills would be necessary. There is also the difficulty of obtaining competent labor, the remoteness of the district, difficulties of transport, and general conditions prevailing which mean heavy expenses, yet every mining man who has examined and prospected this district agrees to its perfect suitability for dredging of the richest class. The reasonable surmise must not be overlooked that values at or near bed rock would be incomparably higher than surface values.

FACILITIES FOR DREDGING.

The operation of a dredger on the river would be perfectly feasible, as it would be a rare circumstance to encounter a bowlder which could not be easily lifted by the buckets of a powerful modern steam dredge. In some isolated cases the bowlders would be of such size that they could not be lifted; but provided these obstacles are not present in great numbers, they present no great difficulties to the modern dredger, and, on the other hand, almost always serve as a nucleus for exceptionally rich pockets of gold.

Where old whirlpools existed there are accumulations of logs and sunken timber, but the majority of these are small and broken, and would not prevent the proper operation of dredge buckets, or the spots where they exist could be entirely avoided by the dredge. Dense tropical forests surround the Kaka River on all sides, containing every class of timber suitable for fuel.

Through lack of boring tests the important question of the depth of bed rock below water level is not definitely known, but in several places on the river the bed rock can be plainly seen protruding, so that it probably does not lie at any great depth. The bed rock consists of sandstone, which is as good as any material for bed rock, as it can be cleaned and thoroughly scraped by dredger buckets without allowing the gold to escape.

On the river Kaka where washing tests for gold have been made there is a very large proportion of black sand, which accompanies the gold in the residues washed. This black sand is very heavy, non-magnetic, and is likely to show under analysis, in addition to a considerable quantity of gold, both tin and platinum. A map forwarded shows very plainly the position of this region with regard to Lake Titicaca and the city of La Paz.

The one serious difficulty in the development of this "auriferous belt" is that transportation is difficult in the extreme and the cost enormous. Rough mule trails are the only means of entering this region, and the transportation of heavy machinery is well-nigh impossible until roads of some kind are built.

Here, then, is a great gold-bearing region awaiting development, and it is surely an opportunity for American capital and enterprise.

HOW RADIUM IS SOLD.

PRICE FIXED BY THE AUSTRIAN GOVERNMENT—HANDLING METHODS.

As Mr. George F. Kunz, of New York, advises the Bureau of Manufactures that an American physician has recently purchased in Paris 100 milligrams, or 0.003527 of an ounce, of radium for $8,000, the following report from Consul George Nicolas Ifft, of Nuremberg, Germany, on the selling and handling of radium is of special value:

Interest in the investigations as to the radio-active properties of waters flowing from certain long-abandoned mines in the vicinity of Oberwiesenthal, in Saxony, led me, while consul at Annaberg, to pay several visits to the radium laboratory of the Austrian Government at Joachimsthal, in Bohemia, and just across the border from Oberwiesenthal. Last summer I chanced to again be in Joachimsthal, which in the fifteenth century was a flourishing silver camp and later the home of George Agricola, who may fairly be regarded as the father of modern mineralogy, and then was for several hundred years practically forgotten, until in the last few years it has again come into public notice as the one place where radium is produced in commercial quantities.

How small commercial quantities may be is well illustrated by the fact that it was only recently that the announcement was made that finally a second gram of radium had been produced at the laboratory at Joachimsthal (1,000 grams=1 kilogram=2.2046 pounds). An article under a Vienna date, published in a local journal, now gives the regulations of the Austrian Government regarding the sale of this valuable mineral and describes the manner in which it is prepared and offered to the scientific and technical world. I summarize this article:

Radium is one of the most expensive things in the world, and the Austrian Government has just fixed the price for a milligram (the one-thousandth part of a gram) at 400 crowns ($81.20). It is impossible to deliver radium in absolutely pure form, and it is therefore prepared for sale in a chemical combination and, as a matter of fact, as radium-barium-chloride. At present this radium preparation is manufactured in forms and qualities which are certified and guaranteed by the government institute of the Vienna University. Each radium preparation is inclosed in a round, so-called radium cell, which has a diameter of 21 millimeters (millimeter=.03937 inch) and a thickness of 9 millimeters. These cells are made in the form of a case that screws together, the material of which is nickeled brass; the bottom of the cell is run full of lead, in which is sunk a small square hole, and in this hole is stored the radium preparation. This radium cell is then closed with a mica plate, and it is thus not necessary to open this cell in order to utilize the radium ray. Every radium preparation is also officially stamped and consecutively numbered. These precautionary measures and rules are regarded as necessary on account of the unusually powerful chemical action of radium and that no unforeseen injuries may result through careless handling of the same.

To purchase radium from the Austrian Government one must have more than just the necessary money to pay the price, for in order to guard against the misuse of the same, this rare mineral will be sold only to scientific institutions or to learned men. Delivery is made at the risk of the purchaser, and as yet there are no rules regulating the use of the mails for such purpose. Up to date not even a single milligram of radium has ever been sent by mail. It has always been forwarded by special messenger. Such was the case when the Austrian Government sent a large quantity of radium (2 milligrams) to Paris as a gift to the Curies for experimental purposes. This was about a year and a half after the latter had discovered radium and still at a time when the new mineral could not be purchased. An assistant at the government institute at Vienna then carried the precious stuff to Paris in a tiny capsule. Since that time radium has become relatively cheap. Under the quotations of the Austrian Government it is worth only about $36,500,000 per pound.

PEAT IN RUSSIA.

DEMAND DEVELOPS AS COST OF OTHER FUEL INCREASES.

The greater use of peat in recent years in the central and Baltic provinces of Russia, with corresponding demand for peat-making machinery, is given attention in the following communication from Consul Hernando de Soto, of Riga:

The recent rise in the price of naphtha refuse, by compelling manufacturers to find substitutes for this covenient fuel, has been a main factor in the rapid development of the peat industry in the central governments (Moscow, Vladimir, Nizhni-Novgorod, Ryazan, Kostroma, and Tambov), where it has now become possible to supply the article in several localities at prices at which neither naphtha nor coal can compete.

The cost of production of machine-pressed peat is stated by producers to be 4¾ to 6 kopecks (2.4 to 3.09 cents) per pood (1 pood= 36 pounds), or on an average 5 kopecks (2.57 cents); adding thereto about 2 kopecks (1 cent) for transportation and general expenses, the average cost of pressed peat fuel, at mill, may be reckoned at 7½ kopecks (3.86 cents) per pood.

As one pood of naphtha refuse possesses the same heating value as three and a half poods of peat, the former, therefore, in order to compete with peat, should sell at 26.25 kopecks (13.52 cents) per pood; or, adding the cost of transportation and other expenses to the price of peat of 2 kopecks (1 cent) as above explained, naphtha should not cost more than 28.25 kopecks (14.52 cents) per pood. At this price naphtha refuse is not obtainable.

With regard to coal the conditions are similar. On a basis of a heating value of two and a half times that of peat, the price of coal should not exceed 18 to 19 kopecks (9.27 to 9.78 cents) per pood, but this is below the market price. Thus peat has secured a dominant position in the central Russian fuel market. Seventy-three firms are at present engaged in the industry, and the total quantity produced in 1908 is stated to have been 960,000 tons, the equivalent of 275,000 tons of naphtha or 383,000 tons of coal, while during 1907 only 183,000 tons of peat fuel was produced in the same districts.

At the present rate of exploitation the peat deposits will be exhausted, according to an expert estimate, in about forty to fifty years. There exist, however, in the same locality a number of bogs which have not been touched, so that an early exhaustion of the peat supply in that section of Russia need not be apprehended.

THE FUEL QUESTION IN THE BALTIC PROVINCES.

In the Baltic provinces, where extensive bogs likewise occur, peat fuel has been used for some considerable time in the breweries and distilleries, but all attempts to introduce it as fuel for domestic use have hitherto been unsuccessful. This is attributed to the low price of wood, which is cheaper than peat and more adapted to the national stove. Since the year 1906, however, there has been a marked rise in the price of wood, which has all the indications of permanency, it having reached at one time last year a price more than 50 per cent above that of 1906, and more than double that of 1892, since which year the general tendency, with minor fluctuations only, has been constantly upward. The need of cheaper fuel has now become

urgently felt, and attention has been drawn to peat as a possible substitute. A professor of the Riga Polytechnic School has, upon careful analysis, ascertained that peat from the local deposits contains about 60,000 calories per pood, while birch wood, the fuel mostly used in Riga, has only 53,136 calories. Extensive experiments made with the local peat have proved the possibility of producing air-dried pressed briquettes at 8 kopecks (4 cents) per pood at the bog. To this price must be added 2 kopecks (1 cent) for transportation, warehousing, and other expenses, and 3 kopecks, or 30 per cent profit, thus bringing the total cost per pood to 13 kopecks (6.69 cents). This is considered sufficiently attractive to induce capital to invest in the industry, because the present market price for birch wood averages 14.4 kopecks (7.4 cents) per pood.

The same experiments also showed that the machinery employed was not adapted to a peat of recent formation, such as is found in the neighborhood of Riga, which contains much undecomposed fibrous matter. For such peat a special machine to tear and disintegrate the mass, preparatory to passing it through the rotary cutting machine, is required. Quite a number of satisfactory machines manufactured in Russia, as well as others from Germany and Sweden, are in operation in the Empire.

In view of the probability that a serious attempt will be made before long to utilize Russia's rich peat deposits, it would seem proper to draw the attention of American manufacturers of peat-cutting machinery to this coming possibility. [Consul de Soto's report was accompanied by a list, now on file in the Bureau of Manufactures, of dealers in machinery, who may be interested in receiving catalogues and prices of American manufacturers of peat machines.]

MINERAL PRODUCTION OF CANADA.

AN INCREASE IN PIG IRON AND A DECREASE IN GOLD AND COAL.

Consul Robert S. Chilton, jr., of Toronto, transmits a summarized report, from a local newspaper, concerning the mineral output of Canada in 1909 as compared with 1908, from which the following statistics are taken:

Total mineral output in 1909 a little over $90,000,000, an increase of over $3,000,000, viz: Silver, 27,878,000 ounces, valued at $14,358,310, of which nearly $13,000,000 was the output of the Cobalt mines; gold, $9,500,000, a slight decrease, the output of the Yukon amounting to $3,960,000, an increase of $360,000; nickel, from the Sudbury deposits, 28,845 tons, valued at $3,913,012 at the furnaces; pig iron, 757,162 tons, valued at $9,581,955, an increase of 20 per cent; coal and coke, 10,411,955 tons, valued at $24,431,351, a small decrease, owing to the trouble at the Nova Scotia mines.

TEXTILES.

MEN'S FURNISHING GOODS.

CANADA.

STYLES FROM UNITED STATES LEAD, WHILE ENGLISH SELL MOST GOODS.

Consul Frank Deedmeyer, writing from Charlottetown, says that the purchasing power of the people of Canada has grown much in the last few years. He discusses this with special relation to the enlarged market for men's furnishing goods:

Purchases will be greater in 1910 than at any time heretofore. The yield of last season's agricultural products will exceed that of the previous year in value by over $100,000,000. General industry, especially transportation and manufacturing, has received from this cause a decided stimulus. A steadily increasing activity is reported in all lines. Ready money is abundant and there is a marked demand for goods of a superior quality. American exporters of finished products will find here enlarged and increasing markets.

During the last fiscal year Canada imported of the principal items, as far as officially reported, which go to make up the stock of the dealer in men's furnishing goods, articles of this classification, to the value of $7,706,137. Of this total the United States furnished to the value of $2,126,661 and Great Britain $4,205,165. The items of this total follow:

Articles.	Total.	Imported from—	
		United States.	United Kingdom.
Hats and caps	$2,592,039	$1,078,582	$1,360,516
Collars and cuffs	164,809	83,478	48,568
Shirts, cotton	214,788	119,472	23,519
Underwear	546,818	79,180	400,129
Umbrellas	100,621	18,675	79,867
Gloves and mitts	2,281,668	678,669	772,058
Socks and stockings:			
Wool	933,115	9,610	833,412
Cotton	227,789	19,807	190,244
Handkerchiefs:			
Cotton	368,592	5,365	310,063
Linen	174,493	1,760	152,848
Silk	56,046	5,367	18,863
Suspenders	45,409	26,696	15,078
	7,706,137	2,126,661	4,205,165

In shoes and boots, men's and women's garments of all kinds, American styles lead. English styles, once so predominant, are now looked upon in Canada as foreign. The people of the United States and of Canada are coming to a common style in apparel for men and women,

and it is this fact which offers to American exporters of apparel the most promising opportunity for wider markets in the Dominion. The main reasons why Great Britain sells to Canada double the quantity of men's furnishing goods imported from the United States are, first, that British exporters canvass every section of this country thoroughly and regularly by Canada-born traveling men; and, second, British exporters share with the retailers of their products the expense of advertising their goods. Many American exporters send their traveling salesmen to the larger cities only. The population of Canada is largely rural. This trade can be reached best by regular visits of salesmen who understand the local demands. Advertising would pay here as well as in the United States.

In the Province of Prince Edward Island the sale of men's furnishing goods of American make could be much increased, if this field were regularly visited by salesmen carrying these lines and by proper advertising. All dealers agree that there is a growing demand for the article of higher quality and price. [Addresses of dealers in men's furnishing goods in Canada and other parts of the world may be copied at the Bureau of Manufactures.]

MEXICO.

MEN'S LINEN COLLARS FROM UNITED STATES IMITATED.

In stating that good American shirt collars have always been difficult to obtain in Veracruz, Consul William W. Canada gives some information on this trade in Mexico:

The stocks are generally of French, Spanish, or Italian makes. Now and then a small assortment of American collars would make its appearance, the styles antiquated and assortment of sizes incomplete. The result is that a person can never obtain what is needed, but must take what he can get. While the cost of a first-class American-made collar is not considered excessive by the foreign element here, yet when the general public is concerned, a difference of a few centavos in the price asked is always an object to the buyer.

A firm of old established dealers in hats, shoes, underwear, and men's furnishings in general, recently received from Italy a shipment of 350 dozens of men's linen collars. These were made in imitation of American four-ply linen collars. In order to obtain these goods, the aforesaid firm sent to its agent in Paris a sample American collar; also a sample of the paper box container, and an Italian firm turned out the order accordingly; all lettering in English and sizes given as in the United States, both on boxes and contents. The firm mentioned says that this class of goods can be procured from Italy much cheaper than from the United States, while they are as good as American, are guaranteed to be four ply, and can be sold at 40 centavos (20 cents, United States) each. These goods seem to have caught the fancy of the people and the entire lot of Italian collars was quickly disposed of. Another order will go forward at once. For the information of American manufacturers a sample of the Italian collar in question is forwarded. [Both it and the name of the Veracruz importer referred to will be furnished to interested collar-making firms by the Bureau of Manufactures.]

COTTON IN AFRICA.

INCREASE IN CROP—ENCOURAGED BY GOVERNMENT.

The following news concerning the extension of cotton growing in Africa was collated by Consul Solomon Berliner, of Teneriffe, Canary Islands:

The British Cotton Growers' Association bought during 1909 at Lagos, Gold Coast Colony, 12,065 bales of cotton, compared with 5,410 bales in 1908, 8,456 in 1907, and 5,705 in 1906. The new crop commenced coming in at the end of February, 1910, and there is every indication that all previous records will again be broken.

The crop in Nyassaland during the past season has been the most successful on record; the increase by the white planters was 300 acres, and the whole increase, about 3,000 acres, put under cultivation of cotton. The native has proved that he is capable of growing cotton equal in quality to that produced by Europeans.

There are two government farms in Uganda; that of Namenage has an area of 168 acres, and that at Sunga an area of 205 acres.

Cotton is grown in the following Transvaal districts: Zoutoansberg, Piet Retief, Rustenburg, Barberton, and Lydenburg, and the Transvaal government is giving this industry great encouragement, and it is said that at the April agricultural show in Johannesburg there will be a magnificent display of cotton. It is claimed that little capital is required to start cotton growing in the Transvaal on a good scale, about $3,500 to $5,000 being quite enough.

The British Government has granted the British Cotton Growers' Association £10,000 ($48,667) a year for three years, toward the cost of experimental, pioneering, and missionary work in the cotton industry in Africa.

MANUFACTURE OF CLOTH.

TEXTILES IN LIBERIA—OPENING FOR THE AMERICAN PRODUCT.

Chargé d'Affaires George W. Ellis, of Monrovia, furnishes the following information concerning the manufacture of cotton cloth by the native tribes of Liberia, and the opportunity which West Africa offers for the American product:

In the fifteenth century cotton manufacture had become the leading industry in West Africa among the Mandingo, Wolof, Songhai, and Hausa peoples. From Liberia cotton cloths were first exported to northern and western Europe. At present cotton manufacture, with some exceptions, is limited to western Liberia, to the Vai, Gbalin, and Mandingo peoples, the Gora, Tomba, and a few of the Kpwesi tribes, influenced by Arabian and Mandingo culture. Most other tribes in Liberia seem unacquainted with cotton manufacture, yet they plait vegetable fiber, an ancient African art.

In cotton manufacture in this section the spinning is done by women. The fiber is delinted by hand, dried in the sun, and carded with a tense bowstring. The swathes of carded cotton are loosely wound on a rounded stick. The spool is held in the left hand, while the thread is drawn away by the right hand, with a twisting and turning motion, and is wound onto another spool. One end of the right-hand spool is weighted with baked clay, shaped like a wheel,

and the spindle is worked with the right hand. The threads are colored by native dyes; blue from indigo, red from camwood, and yellow from annatto; other dyes are secured from barks of indigenous trees. Blue is most frequently met with, but white cloth is much valued by all Mohammedan tribes.

While the women card and spin, the weavers are men. The cloth is woven in strips not more than 12 inches wide, and skillfully sewed together the required widths. Some are of great length and width, woven in colors and ornamented with figures and designs, and are very fine.

However, the African is unable to compete with the cotton mills of Western nations, and African cloth is being supplanted. The opportunity for American cotton manufacturers to cater to the millions from Senegal to the Red Sea, as presented through the open door of Liberia, is very promising, and if not now, must at some day command the economic attention of American manufacturers. The coast tribes, especially the Kru races, are great consumers of foreign cotton cloths. Even with those tribes manufacturing cotton in Liberia, and among the millions of the Sudan, the consumption of foreign cotton goods is daily increasing.

Cottons that find ready sale are blue baft, prints of various descriptions, romals, and white shirting, and blue worsted goods are admired by the Krus, Vais, and Mandingos for trousers. African tribes, except in instances, do not fancy loud and gaudy colors; their favorite colors are somber blue and white, made up in 12-yard pieces of not less than one yard in width. These pieces sell for $1.50 to $2 each. With the evident and pronounced revival of American interest in Liberia, there is a strong preference for closer commercial relations with the United States, and it is rapidly spreading to the aboriginal population. This gives a splendid opportunity for American cotton manufacturers to share more largely in the cotton trade of the Republic, and even to extend it to the millions of the Sudan, who are great consumers of cotton goods.

SPANISH WOOL AND YARNS.

EFFORTS BEING MADE TO INCREASE THEIR EXPORTS.

Consul-General Frank D. Hill, of Barcelona, furnishes the following information concerning the exports of Spanish washed wool and woolen yarns:

While the exports of Spanish washed wool amount annually from $2,160,000 to $2,600,000, the Spanish press complains that no effort is made to increase the export, noting, at the same time, that while wool loses in weight in the process of washing it gains in value, besides leaving useful by-products.

An association of manufacturers of woolen yarns has been formed at Sabadell to increase the export of their products. The association is reported to have received every encouragement at home and abroad. The exports of Spanish yarns are chiefly to Argentina, although Argentine statistics show that out of the imports of woolen yarns into that Republic in 1908 of 854,834 pounds, valued at $303,066, only 1,485 pounds, valued at $521, were from Spain, and out of 128,768 pounds of mixed woolen yarns, valued at $23,917, only 4,180 pounds, valued at $917, were from Spain.

TEXTILE MILLS IN BRAZIL.

JUTE AND WOOLEN FACTORY ENLARGEMENT—ELECTRIC POWER.

Activity in textile manufacturing in Brazil is indicated in the following notes from Vice-Consul-General J. J. Slechta, at Rio de Janeiro:

The largest jute mill in Brazil, which controls the output of the finished product for coffee sacks, operating in the city of São Paulo, is adding 5,000 spindles, and by June 1 will have 15,000 spindles in regular operation, making it one of the largest in the world. At present many of the small jute mills in Brazil, which import yarn largely from Scotland, buy none of the Brazilian spun jute, but the increased production from the mill mentioned will undoubtedly decrease the imports of jute yarn for small weave mills. The 10,000 spindles now in use already supply practically all the large mills in Brazil, as well as the 1,500 looms in the two mills owned by the same concern operating the spinning mill.

Fabrica Rink, the largest woolen mill in Rio de Janeiro, and the only one of consequence in the district, now operating 1,200 spindles and 104 looms, will shortly make new installations, bringing the total up to 1,900 spindles and 132 looms. Electrical installations have been ordered and the factory will be operated entirely by electric power. About the same time installation will have been made in the only one of the cotton mills of the Federal district which remains to adopt electric motive power. The total installations in the nine mills thus far using electric current amount to about 10,000 horsepower.

SWISS RIBBON TRADE.

THE PAST YEAR A DISCOURAGING ONE FOR THE INDUSTRY.

Consul-General R. E. Mansfield, of Zurich, furnishes the following information concerning the Swiss ribbon trade in 1909:

The production of ribbons having been greatly increased during the past few years by the introduction of electric motors to the looms in the houses of the workmen, there was not a sufficient demand in 1909 to keep all the looms going, and in order to retain their workmen, of which there is a chronic scarcity, manufacturers accepted orders below the cost of production, so that the year was a discouraging one for the ribbon industry.

The unfavorable conditions that prevailed throughout most of 1909 are attributed largely to the caprice of fashion, which did not favor the ribbon trade in general, the articles produced by the Swiss manufacturers in particular. Since the beginning of 1910, however, fashion seems to be more favorable, having decreed ribbons for spring and summer gowns, and the dealers say that the beribboned gowns mean ribbons for ladies' hats, which indicates better business for the Swiss manufacturers, who have large stocks on hand because of the overproduction of the last two years.

The principal buyers last year were English, London furnishing the best market for Swiss products. There were also many German and an unusual number of Canadian buyers, the latter seemingly anxious to emancipate themselves from the English wholesale houses, through which practically all their purchases have been made up

till within the past few years. The few American buyers who came to Switzerland last year bought very sparingly, because American manufacturers are now able to compete successfully with Continental producers, and because of the further fact that the home demand was not equal to the output of domestic ribbons.

The total value of ribbons exported from Switzerland in 1909 was $8,149,218, as compared with $6,978,358 during 1908. The exports to the United States in 1909 were valued at $478,626; in fact, the United States is no longer considered an important factor in the Swiss ribbon trade.

MORE LACE MACHINERY.

INCREASING EXPORTS FROM NOTTINGHAM TO THE UNITED STATES.

In furnishing the following statistics, Consul Frank W. Mahin reports that the Nottingham lace makers are worked to their utmost capacity in filling American orders:

The exports of English lace machines from Nottingham to the United States, from December 14, 1909, to March 7, 1910, were as follows: Free of duty: New Levers gothrough, 45 machines, including extra parts and packing, $245,439; secondhand Levers gothrough, 5 machines, $7,727; total Levers gothrough, 50 machines, $253,166. Four dutiable machines, extra parts and packing included, $9,313. Besides the foregoing extra parts, which accompanied the machines, twelve separate invoices of extra parts were shipped, valued, including packing, at $9,945, making the total exports of machinery and extra parts for the dates given, $272,424. The foregoing prices are net, subject to no discounts whatever, the freight being paid by the consignee.

Though the price of the secondhand Levers machines is only one-fourth that of the new machines, they are generally in good condition, and should last many years, with occasional renewal of parts. What they most lack, in comparison with the new machines, are the modern improvements in width and movement.

MACHINERY AND METAL GOODS.

HEATING AND COOKING STOVES.

SCOTLAND.

SENTIMENT IN FAVOR OF OPEN FIREPLACES MUST BE OVERCOME.

Consul W. Stanley Hollis, of Dundee, in answer to an inquiry, furnishes the following information concerning cooking and heating appliances in Scotland, and the possible opening therein for American stoves and ranges:

Practically the only stoves used in Scotland are those for cooking, almost all houses deriving their heat from open fireplaces. Cooking stoves, or ranges, are built into the bases of the kitchen chimneys, and each forms a part of the permanent fittings of the house in which it is installed the same as the plumbing, sinks, and bath tubs. These cooking ranges are generally supplied with hot-water connections and keep bathrooms and other wash places supplied with hot water. They are all, practically, made in the United Kingdom.

Some American-made cooking stoves have been offered for sale here, but have not proved suitable, as they were made to set out from the wall and to connect with the chimney by a stove pipe and elbow, and chimneys in this country are not built to take the connecting stove pipes. If American manufacturers of cooking stoves and kitchen ranges wish to sell their wares in this market it will be necessary to offer ranges to be built into the bases of the chimneys, and possessing readily perceived superiorities to those already generally used in this country.

There will be less difficulty, however, in introducing heating stoves, as it is readily admitted that the open fireplace is not the best heating contrivance, although there is a strong sentiment here in its favor on account of its cheerful appearance. Before these stoves can be introduced in any quantity the people will have to be educated to appreciate their many advantages over fireplaces, and this will cost the American manufacturer some time and money. All houses are built with open fireplaces in the principal rooms, and stoves to take the places of these fireplaces must not be too large and must lend themselves to an easy connection with the flues that will have to be made in the bricked-up fireplaces, for it is only by bricking up the fireplace and leaving a hole in the brickwork to take the stove pipe that stoves can be installed in these rooms.

The manufacturer who wishes to introduce heating stoves here should first get into communication with a good firm to act as his agent in each of the principal cities of Scotland—Glasgow, Dundee, Edinburgh, and Aberdeen. To each agent he should send a small

consignment of stoves and have them shown in their agent's salesrooms. The agent should not be asked to pay for any of the stoves thus sent until after he has disposed of them. Any respectable dealer who will receive a consignment of stoves in this manner will prominently display them, and will do his best to effect sales; or he can even go so far as to hire premises where the stoves and their working can be demonstrated by an expert from the United States. In this way the stoves would be brought directly to the notice of possible purchasers, and no doubt considerable trade would result therefrom. [A list of the dealers in stoves in Dundee is on file in the Bureau of Manufactures.]

DUNFERMLINE.

OLD FIREPLACE METHOD MAY GIVE WAY TO NEW APPLIANCES.

A market for improved American hot-water pipes and heating appliances in Scotland is thought by Consul H. D. Van Sant, of Dunfermline, as likely to gradually open, which leads him to give some details:

Already several hot-water heaters have been installed in Dunfermline, with satisfactory results, for midwinter use. Portions of the same, it is said, are of American make or patents. At present, as in centuries past, the method of heating houses in Dunfermline and this part of Scotland is by the open fireplace, with wood or soft coal as fuel. The fireplace is economical and usually healthful, but it is not satisfactory to the winter sojourner from America, who has been accustomed to a better and an evener distribution of heat while indoors.

Should a new and better method of indoor heating be eventually accepted in Scotland for the comfort of tourists as a beginning, the result would be an increase of travel during the winter months as well as a greater market for heating appliances. At present thousands of wealthy Americans and Canadians stop in England and countries of Europe, while in the winter it is a noted exception to find a tourist in historic Scotland. If satisfactory heating of hotels and lodgings were advertised, beautiful and romantic Scottish centers, where golf, football, and other outdoor sports can be indulged in during the winter months, like Preston Springs and Quebec in Canada, the Adirondacks in New York, and the resorts of northern Michigan, would become more favorably known and widely patronized, resulting in an increase of revenue and a larger trade.

WALES.

A GOOD FIELD, IF PROPERLY WORKED, FOR THE AMERICAN PRODUCT.

Consul Jesse H. Johnson, of Swansea, believing that American manufacturers have not taken advantage of a previous report on anthracite stoves in Wales, brings the subject again to their attention, feeling assured that the Welsh field is worthy of their best efforts:

Swansea is in the heart of an excellent anthracite coal bed, and the quality of Swansea Valley coal is well known. In spite of the fact

that no other fuel save anthracite is consumed in this region it is a curious fact that less than 5 per cent of the consumers have adopted the use of anthracite stoves. This fact is now being recognized by the makers of German, Canadian, and British stoves, and it is quite time that the stove manufacturers of the United States should carefully consider the kind of stove required here.

Quite recently a German firm supplied an anthracite stove for use in the Swansea coal exchange. The stove cost about $75, and will prove a splendid advertisement for German makers, for it is obvious that it was selected when found to be superior to British-made stoves.

THE KIND OF STOVE NEEDED.

During a recent tour through the adjoining anthracite district I observed that anthracite coal was used, in 99 cases out of 100, in open grates, and that a great percentage of the people used anthracite small coal mixed with fire clay. This latter method is a custom which has been in practice for many years, four parts of anthracite small coal being mixed with one part of clay and then rolled into small balls about 3 inches in diameter.

The stove necessary here is one useful as a cooking range and adaptable for a sitting room, because in the majority of miners' houses the kitchens are used as living rooms. This confirms my repeated statements that in order to introduce American goods, expert representatives are needed to study the particular requirements of each district.

It is said that several British stove men are preparing to make a thorough investigation of the subject of my former report, in order to introduce their stoves. To bring their goods into prominence, they have appointed local agents, whose showrooms are furnished with sample stoves actually consuming anthracite coal.

American makers and exporters can deliver stoves here at far cheaper prices than the goods mentioned in the illustrated catalogue which accompanies this report. [Catalogue on file in the Bureau of Manufactures.]

This district certainly offers an excellent market for American stoves, but it is first essential that the actual requirements of the users must be studied.

GERMANY.

LIMITATIONS OF THE MARKET—SALES AT HAMBURG.

Consul-General Robert P. Skinner states that what is called in Hamburg the "American stove"—the latest development of the base-burner—is making headway steadily against the old-fashioned porcelain stoves of Germany. Mr. Skinner adds:

The term, however, is only a name applied to a type, the stoves themselves being manufactured almost invariably in Germany. Undoubtedly, genuine American heating stoves could be sold extensively if manufacturers were able to meet German terms and the German tariff. Thus far they have not been able to do so on an important scale. One local dealer is selling about 25 imported American stoves per annum, these devices commanding from $23.80 to

$35.70 c. i. f. Hamburg. This importer, who is also a manufacturer of German stoves, seems to be satisfied, and buys only stoves elaborate in design and large in size.

Local dealers say that there is no market whatever for American cooking stoves such as are described in the catalogues submitted. All German apartments are provided with cooking stoves, usually built in, with white-tiled facings, and more often with a large top iron plate having one hole in the center with a number of rings. [Useful Hamburg addresses for opening up a stove trade may be obtained from the Bureau of Manufactures.]

SOUTH AFRICA.

OIL AND GAS COOKING STOVES GROWING IN POPULARITY.

In the following report Consul-General Julius G. Lay, of Cape Town, furnishes information concerning the relatively small use of American stoves in South Africa:

It is learned from Cape Town merchants that very few American-made stoves for burning wood or coal are stocked here. The reasons given are: Wood and coal stoves are not used for heating in this country, grates being used in their stead; consequently there is no demand for them. American ranges and cooking stoves for coal and wood are said to be much more expensive than similar stoves of British and Swedish manufacture. Too much expense is thought to be caused by the American manufacturers putting fancy trimmings of nickel on their stoves. This is not appreciated in this country, where people are accustomed to the plain European stoves. It is also stated that merchants who handle American-made stoves have had trouble in not being able to obtain supplies of parts, so as to replace breakages.

The imports of stoves into South Africa in 1908 amounted to $163,251, viz: From the United Kingdom, $75,109; from the United States, $56,222; from Sweden, $18,736; from Germany, $9,747; all other countries, $3,737.

It is estimated that the value of the kerosene stoves from the United States was $10,706. Kerosene oil heaters and cooking stoves have during the past few years become very popular, and are said to be more economical for small families than coal and wood stoves. All fuel, including wood, coal, gas, and oil, in South Africa is very high.

Artificial gas for fuel is becoming more popular, and there is a good demand for gas cooking stoves. These are all said to come from England, and in Cape Town the supplying of artificial gas is in the hands of the Cape Town and District Gas, Light and Coke Company. This company operates on such a plan that all the gas stoves are supplied by them, and none of the stove dealers have any chance of getting a portion of this trade. No American-made gas stoves, ranges, or hot plates are seen here.

The customs duty levied on stoves by the South African Customs Union is 15 per cent ad valorem, with a rebate of 3 per cent ad valorem to those of British manufacture. [A list of Cape Town importers of stoves, transmitted by Consul-General Lay, is on file in the Bureau of Manufactures.]

ELECTRICAL SUPPLIES IN ENGLAND.

INCREASED MARKET FOR GOODS IN HUDDERSFIELD DISTRICT.

Consul Frederick I. Bright, of Huddersfield, in a report on the municipal electric supply system of that city, states that considerable progress has been made in the introduction of electric drive into the engineering and mechanical trades, with the exception of the wool-working industries, and that there is an increasing demand in the English market for motors and electrical supplies. He writes:

For the calendar year 1909 the total income of the corporation from the sale of current for lighting and power purposes and from rent of meters, motors, and other apparatus was $160,414. The working expenses were $96,502, leaving a gross surplus of $63,912. The net balance to apply on account of depreciation after payment of interest on loans and a contribution toward redemption of debt was $3,458.

The number of consumers on December 31, 1909, was 3,214, and there were 297,931 lamps connected with corporation mains. As all streets are illuminated by gaslight, few arc lamps are in use. The total units metered for lighting was 1,710,146, a decrease of 126,544 from the previous year, due to the adoption of the metallic filament lamp.

In 1908 the corporation installed a 3-phase alternating current supply system to meet the growing demand for electric-power driving, the cost of which, including generating and condensing plant, cooling pond, mains, switchboard, etc., was $185,394. The increase in the consumption of 3-phase units over last year was 1,415,656. The charge for lighting is 8 cents per unit, and for heating and power 4 cents and 2 cents per unit, meter rents in addition.

The report of the committee appointed to inquire into the subject of electric driving in West-Riding woolen and worsted mills is said to be very unsatisfactory to electrical engineers, some of whom regard it as injurious to the electrical industry. Manufacturers are yet to be convinced that electric is not more expensive than mechanical driving. The plan of connecting a small motor to each machine, as is done by Continental spinners, is recommended.

LOCAL MANUFACTURES—CHARACTER OF GOODS DESIRED.

This district is fairly well represented in the manufacture of certain lines of electrical products. Dynamos, motors, and a variety of electrical instruments and appliances are made. One firm making a specialty of alternating current motors, 1, 2, and 3 phase, has an annual output of about 1,000 motors. During the last year the British Admiralty purchased a number of 3-phase motors from the district for use at wireless telegraph stations. The tests applied by the Government for these motors are given, as follows: Six hours on full load, thirty minutes on 50 per cent overload, thirty minutes on full load with volts reduced by 20 per cent, and a ten-minute test on a voltage of 2,000.

The introduction of the metallic filament lamp, of German origin, has been an important event as affecting the business of supplying electricity for lighting purposes. The general adoption of this lamp,

which consumes a greatly diminished current, in all parts of the country has considerably reduced the income of suppliers from sale of current. At the same time the working expenses of supply stations have actually risen, owing to an increase in the number of consumers.

There is an increasing demand in the English market for motors for domestic use, for knife cleaning, coffee grinding, meat mincing, and for carpet cleaners and dust extractors, and it is predicted that electricity is to be adopted for heating, water boiling, and cooking in the near future. There is a good business done in motors for polishing used by jewelers, electroplaters, and cycle makers, but probably the principal demand comes from municipal corporations, which buy large quantities under contracts for a year's supply.

The Huddersfield corporation is a purchaser of the usual supplies and machinery required at electrical supply stations, such as generators, valves, castings, pipes, cables, motors, transformers, meters, steam fittings, etc. All transformers, meters, and switches fixed on consumers' premises are the property of the corporation. Other appliances and apparatus belong to consumers. Among American-made goods sold here are electric fans, incandescent lamps, electric meters, and light tools.

[The principal firms with which the electrical department of the corporation has dealt are on file in the Bureau of Manufactures.]

HARDWARE IN GREAT BRITAIN.

AMERICAN PRODUCTS, INCLUDING MACHINERY, MAINTAIN A STEADY SALE—OPPORTUNITIES FOR NEW WARES.

Special Agent Henry Studniczka, writing from London, tells of the sale in Great Britain of hardware and machinery from the United States, with possible opportunities for extending the trade. He says:

The hardware manufacturers of the United States hold a full share of the hardware business of Great Britain. Their success is the direct result during many years of hard work and close attention to all the details of their business. Some of these firms have branch offices in London with commodious warehouses, which have been established here for the last 25 years. Among the most prominent are: Graham & Co., of New York, which firm represents some 20 different hardware specialities manufactured in the United States, and Russell, Erwin & Erwin, of Connecticut. There are also local firms who handle American hardware on commission. Pryke & Palmer handle the Disston Company's products of Philadelphia, with many other hardware specialties. Buck & Hickman (Limited), handle Kearney's and Foot's hardware of New York, and J. Nichols & Co.'s hardware of Rhode Island, with other specialties of many of the hardware manufacturers of the United States. In addition to these firms Yale & Towne, Wibush & Hilger, Markt & Co., Hanauer, Delieus & Co., John G. Rollins & Co., all of New York City, are doing a general export business from the United States.

All manufacturers of hardware specialties who do not feel able to establish their individual agencies in London would do well to have some firm here to represent them. These firms send almost annually

one of their proprietors, or a trusted traveling man, to the countries they are dealing with, and keep constantly informed of all the new developments in their respective trades. The Walworth Manufacturing Company, of Boston, Mass., has an establishment in London to sell their pipes and fittings. The London firms who handle hardware at retail have generally two sections in their establishments—one with English hardware and tools and the other with American hardware and tools.

AMERICAN HARDWARE HOLDING ITS TRADE.

Notwithstanding the very keen English competition the American hardware men have been holding their own in the sale of their goods. Roller skates, household specialties, such as washing machines, meat choppers, coffee mills, and many similar commodities, are sold daily on account of their superior style and workmanship and special usefulness, regardless of the fact that the price is sometimes a little higher than that of competing goods. The same success attends the sale of those articles that the American typewriter has attained, which, on account of its superior workmanship and style, is doing seven-eighths of the business of London. The American hardware men visited complain of very keen competition on account of cheaper raw materials and cheaper labor as compared with the manufactures of the United States. The real danger threatening American hardware here comes from cheap German and Swedish imitations of some of our best American patterns in hardware specialties.

EXTENT OF THE TRADE.

American hardware in Great Britain has maintained a steady sale during the last four years, with the exception of an occasional increase in some desirable specialties. The import values given below represent the imports of these goods in 1909:

Locks, hinges, and builders' hardware	$800,000	Stoves and ranges	$85,000
Saws (steady annual increase)	160,000	Printing presses	235,000
All other tools	1,200,000	Pumps and pumping machinery	550,000
Cutlery	220,000	Sewing machines	1,600,000
Firearms	100,000	Shoe machinery	380,000
Cash registers	500,000	Steam engines	275,000
Laundry machinery	160,000	Typewriters	1,770,000
Metal work	1,700,000	Windmills and parts	10,000
Mining machinery	300,000	Wood-working machinery	54,000
Wire nails of all kinds, including tacks	420,000	All other machinery not specified above	2,500,000
Pipes and fittings	800,000	All other ironware not mentioned above	1,200,000
Safes	7,000		

OPPORTUNITIES TO EXTEND TRADE.

Among the hardware possibilities in Great Britain there seems to be an opening for one or more progressive American heating firms. Almost all of the houses are heated by grate fires with the exception of very few hotels and a few public buildings. The American Radiator Company has an extensive establishment in Oxford street, London. An electric carpet cleaner of choice construction would no doubt find a ready sale. Some of the American makes were offered and sold, but did not give full satisfaction. Sheet-iron office furniture, such as letter files and bookcases for business papers seem unknown in the London business houses. In coffin hardware of the higher grade for polished wood coffins and metal caskets, brass trimmings are mostly used, such as handles and name plates, and hard-

ware men assert that the United States brass manufacturers can not compete in that line with Englishmen. There is apparently room for an agency to be placed in the United Kingdom of coffin hardware of cheaper construction, such as malleable iron, or wrought iron nickel plated. Any of the firms mentioned would possibly undertake the handling of this specialty.

VACUUM CLEANERS IN GERMANY.

A GOOD FIELD FOR SELLING NEW AMERICAN DEVICES.

Consul-General Robert P. Skinner has looked into the opening in Germany for American suction cleaning apparatus, and writes from Hamburg:

Catalogues and printed information in regard to vacuum cleaners of American manufacture having been shown to an extensive importer of miscellaneous American goods in Hamburg, have evoked the opinion that prices and terms being satisfactory these devices should be able to compete successfully with German and other machines now on this market. This informant was particularly struck by the compactness and apparently practical construction of the motors shown in the American designs and with the variety of devices proposed by American manufacturers.

The extensive construction of large apartment houses and immense office buildings in the larger cities of Germany make the use of central suction plants with connections in all rooms entirely practical, while small householders are taking an increased interest in hand apparatus or the portable electric machines. Prices for the best German machine now on this market are from $50 to $100 for hand apparatus, and from $130 to $226 for the electric apparatus, complete. These German machines are much ruder and more bulky than similar American machines.

[The consul-general forwards the names of importing firms with whom it would be well to correspond for introducing such novelties into Germany. These addresses may be obtained from the Bureau of Manufactures.]

SAXONY.

GERMAN INDUSTRIAL CENTER AFFORDS GOOD MARKET OPENING.

Consul Carl Bailey Hurst furnishes the following information concerning the use of pneumatic cleaners in Plauen, Saxony, and the opening for American appliances:

The attention of American manufacturers of pneumatic cleaners is earnestly solicited to this market. Not only are first-class cleaners of small dimensions and at modest prices for house use likely to find extended sale, but larger ones can be permanently installed in hotels and public buildings, as well as in the thousands of factories and mills that are crowded into this busy manufacturing district and still unprovided with pneumatic cleaners. The local laws and regulations are very exact as to the maintenance of hygienic conditions in all mills, workshops, and other places where there are many employees, so that a new and effective system for promoting greater cleanliness can only be looked upon as a decided boon. Authorities and employers are ready to make use of any sensible means of improving the immediate surroundings of operatives and others.

Several German firms are engaged in the manufacture of vacuum cleaners, ranging in price from $6 to $1,500 and more. One cleaner that has had a considerable sale in Germany and that has taken a number of prizes at fairs is made in three sizes. It is practically noiseless, whether worked by hand or electric power. The model, having a small electric motor, rests on a runabout car with rubber wheels and is readily moved from one room to another. It can be connected with an electric lighting installation by means of a two-pin wall plug and set working with facility. The consumption of current is said to be trifling. Its price is from $131 to $214, while the price of a similar apparatus for hand power is from $48 to $95. The usual accessories consist of a control glass, spiral hose, clip, guide rods, nozzles, or tewels.

There has been installed recently by a local upholsterer a large, motor-driven pneumatic cleaner that can be transported from house to house. The service has been very successful, and people are pleased with the thoroughness with which the cleaning is done. This is the only apparatus here of the kind as far as is known.

At one or two stores a small vacuum cleaner, worked entirely by hand, is on sale at the retail price of $6. It is good for walls and curtains, but is not well adapted to carpets. Being of a piston system it is rather tiring to use for any length of time, as the heavy lower part of the cleaner must be constantly manipulated. Its non-dust-raising qualities and reasonable price have, however, made it a helpful household adjunct. [Catalogues, prospectuses, and price lists of other German vacuum cleaners, forwarded by Consul Hurst, are on file in the Bureau of Manufactures.]

AMERICAN TYPEWRITERS.

ENGLAND.

THEY CONTROL THE TRADE IN THE WORLD'S LARGEST CITY.

After investigating the trade in typewriters in London, Special Agent Henry Studniczka says that the American are the favorite machines of business houses. He adds:

The Underwood, Remington, Hammond, Yost, Oliver, Monarch, Smith-Premier, and other American makes have salesrooms in London, and are getting seven-eighths of the London business. Only two English machines were found, and the companies selling them did very little local trade, but claim to have some business outside of London. These two machines are clumsy in appearance, are not as easily operated as the American machines, and American manufacturers need not fear them in their present condition. It is stated that the parts of these machines are made in Canada and put together after arrival here.

CANADA.

AMERICAN MACHINES PREFERRED IN NOVA SCOTIA.

Consul Alfred J. Fleming states that there are 35 typewriting machines in business houses of Yarmouth, all save four or five of which are American and generally standard makes. Notwithstanding the 25 per cent Canadian duty the American machine is the favorite. The 35 machines cost on an average at least $100 each. There are two local dealers in typewriter supplies.

SEWING MACHINES FOR SIAM.

AMERICAN MAKES LEAD IN SALES—IMPORT STATISTICS.

American sewing machines have the preference over those of all other makes imported into Siam, and are the only American manufactured articles whose import exceeds that of other countries. Vice-Consul-General Carl C. Hansen, of Bangkok, in making this statement, quotes the statistics:

According to the customs, the direct import of sewing machines from the United States for the fiscal year 1908–9 was valued at $6,926, as against $30,997 for 1907–8, a falling off amounting to $24,071; but it should also be noted that the total import of sewing machines into Siam from all sources for the same period amounted to only $13,777 for 1908–9, as compared with $39,344 for 1907–8. The following statement shows the value of the import of sewing machines into Siam for the fiscal years ended March 31, 1908 and 1909:

Country.	1908.	1909.
United States	30,997	6,926
United Kingdom	1,467	1,962
Germany	6,859	4,149
Belgium	499	729
France	22	11
Total	39,344	13,777

The import duty is 3 per cent ad valorem.

REFRIGERATING PLANT NEEDED.

OPENING IN MEXICAN TOWN FOR THE COLD-STORAGE BUSINESS.

Consul H. P. Coffin, of Mazatlan, directs attention to the following opportunity for establishing a cold-storage plant in Mexico:

At the present time there is no cold-storage plant in Mazatlan for the preservation of meats and perishable vegetables. Cattle are slaughtered on the same day on which the meat is sold. During the summer months this tends to cause insanitary conditions, as the meat hangs suspended from hooks and is at the mercy of flies and other insects.

The population of the city and surrounding country is constantly increasing, as is likewise the production of fruits and vegetables. A modern cold-storage plant would bring substantial returns to the man willing to invest his capital in such an undertaking. At the present time there is no way of storing eggs, and as these are scarce and bring high prices the successful storing of eggs would net profits.

RUBBER GOODS.

WORLD RUBBER TRADE.

UNITED KINGDOM.

REASONS WHY THE BRITISH CONTROL THE MARKET.

The following information concerning the fluctuations in the rubber trade during the three years ended December 31, 1909, is furnished by Special Agent Henry Studniczka, as the result of visits to the leading rubber brokers in London:

The firms interviewed seemed to agree that the trade in crude rubber, barely steady on some brands, has fallen off considerably in others entirely on account of the shortage of supplies, and that the prices of the brands mostly in demand have therefore advanced.

The following authentic statement will best illustrate the shortage of india rubber. In the Dutch East Indies old rambong rubber trees, considered worthless a few years ago, are no longer cut down, except when they are in the way of newly planted Para trees. One East Sumatra estate in 1909 had a yield of nearly 1 pound per tree from 8-year-old trees. The cost of this rubber, delivered to London, was 28 cents per pound, and having been prepared by men who understood the business, it was sold in competition with Para rubber.

FLUCTUATIONS OF PRICES.

The fluctuations in the rubber market during the past 3 years can be best shown by comparing the different prices of fine hard Para rubber per pound.

In 1907, January, $1.28, gradually dropping to 97 cents, until December, when it sold as low as 87 cents.

In 1908, January, 85 cents; February, 66 cents; gradually advancing, it sold in November and December as high as $1.30.

In 1909, January, $1.25; advancing slowly until August, when it sold for $2.09; in September and November, $2.19; in December it dropped to $1.70.

In January and February, 1910, $1.84 to $1.98, with all prospects for a further advance during the year.

The comparatively good prices for this high-grade rubber seems to be entirely due to the advantage that the manufacturers of a certain class of goods find in its use. It must be remembered that the African grades of inferior rubber were available during 1909 at comparatively low prices. Two of the brokers seem to blame American manufacturers for the advance in the price of the Para brand. Sumatra-Java and Madagascar Para have also sold well. Sarawak-Jelatong was quoted as selling at $97 to $146 per ton during the past 3 years, and a few tons of old stock may be had now for $122 per

ton. One of the firms pronounced this brand as entirely undesirable for rubber shoes.

Bandjermassin rubber was reported by three of the firms as not obtainable in the London market at present, but direct shipments from Singapore can be made in March for $139 per ton, f. o. b. Singapore. The Pontianack brand was recommended by most of the brokers as the best rubber for shoe manufacturing, and was quoted by the different firms at an average of $141 per ton for fresh importations, but a firm, which evidently had 11 tons of this brand on hand, quoted $87. In 1907 this brand sold as low as $73 per ton.

OPPORTUNITY FOR AMERICAN MANUFACTURERS.

American rubber-shoe manufacturers who desire to extend their trade should devote their attention to north Europe, as I find by conversation with manufacturers here that in Denmark, Holland, Sweden, and Norway, and no doubt other countries where snow falls in November and remains for a long period in some of the towns, the well-fitting rubber shoe is rapidly taking the place of the heavy, fur-lined, clumsy footwear, unsuitable for walking long distances. It is said here that most of this trade is now supplied by Germany. In London I notice the absence of the American rubber coat and cravanette. Visiting eight retail establishments, I found that the same style of cravanette which sells in St. Louis for $10 is offered, of English production, in the stores around Piccadilly Circus for $15.60 and in neighborhoods where the middle class trades for $13.50.

WHY ENGLAND CONTROLS THE RUBBER MARKET.

Rubber plantations are being continually financed in London, and approximately some 300 plantations are owned by capitalists in the United Kingdom. The rubber market of London seems to have a bright future, as great developments are expected from the plantations, financed during the last five years, in Africa, Sumatra, Java, Madagascar, Malacca, British Borneo, India, Burma, New Guinea, and the Malay Peninsula. In addition to this, it must be remembered that the shipping facilities by the merchant marine of the United Kingdom, the direct lines of communication with the producing countries, and a government subsidy give England a great advantage.

London has a rubber growers' association, with a membership of some 200 rubber planters and others indirectly interested in rubber growing. In the reading room of this association there are between 50 and 60 rubber journals, from all the rubber-growing countries of the world. Antwerp has also a rubber growers' association, and many rubber plantations were financed from that city.

The principal members of the large manufacturing firms of rubber goods have secured controlling stock in some of the best-paying rubber plantations, and thus, by knowing the actual cost of production, are placed in a position to protect themselves on prices.

RUBBER EXHIBITIONS—IMPORTS AND EXPORTS.

In the Brussels Universal Exhibition of 1910 the Association des Planteurs de Caoutchouc are organizing a collective exhibition of the rubber-planting industry. The exhibition will have special sections for the chief planting centers, without distinction of nationalities.

The International Rubber and Allied Trades Exhibition will be held in London in June, 1911, and is expected to be of considerable dimensions and much larger than any of its predecessors.

In submitting the annexed statement of the imports and exports of gutta-percha and rubber into and from the United Kingdom, it must be considered that many shipments are made from the ports of entry direct to the United States, sold by brokers in London to firms in the United States, but it would be almost impossible to ascertain the extent of these shipments.

The following statement shows the imports and exports of gutta-percha and rubber into and from the United Kingdom during the past three years:

Description.	Pounds.			Value.		
	1907.	1908.	1909.	1907.	1908.	1909.
Gutta-percha:						
Imports	6,516,048	3,575,935	5,064,864	$1,193,782	$1,459,001	$2,189,783
Exports	1,268,624	521,920	680,736	558,129	191,525	257,087
Rubber:						
Imports	74,736,928	64,407,392	78,406,944	52,727,355	40,737,009	68,800,192
Exports	39,090,912	40,153,792	44,567,488	29,252,273	27,887,797	44,373,125

OUTPUT OF THE SEVERAL COUNTRIES AS RECEIVED IN LONDON.

The following report is a continuation of Special Agent Henry Studniczka's investigations of the rubber trade and deals with the various classes of rubber and their qualities as they reach the British market. This report is based on an elaborate discussion of the rubber trade in the London Times:

Inquiries into the progress of the rubber industry in the British Oceanic possessions show that 50 new plantations have been financed, varying from $100,000 to $1,500,000, as to their stock issues, which were quickly absorbed by the market, due to the fact that the shares of the older plantations have been advancing until some of them represent a valuation of $2,000 to $3,000 per acre planted with trees.

At many of the sample rooms of the London brokers visited the crude rubber was laid out for sale in the various forms in which it arrived. This rubber varies in value from $2.55 per pound for smoked sheet down to 28 cents per pound for Niger flake, and between these two prices it would be possible to find any grade of rubber produced.

CREPE SHEET AND BISCUIT RUBBER—HARD CURED PARA.

Rubber reaches the London market in almost every possible shape and color. In most cases the queer names in the market reports are mostly descriptive. Thin, pale crepe, for instance, arrives in long strips, generally about 4 feet long and 8 to 12 inches wide. It varies in thickness from one-sixteenth to one-half an inch and has roughish surface, from which the name crepe is derived. This rubber is pale-yellow in color and when held up to the light is quite transparent, which proves its purity and accounts for the very high price obtainable therefor, which in the middle of March was about $2.48 per pound. The so-called sheet rubber is similar to crepe, but slightly

thicker and not so transparent. It is prepared in a different manner and, unlike crepe, must be put through the washing mills before it can be used.

Hard fine Para is prepared by native labor of the Amazon by dipping a so-called paddle in the rubber and then holding it in the smoke of a fire, which hardens the coating of milk. The paddle is then dipped again for a second coating and again smoked, and so on until quite a large biscuit, generally weighing about 60 pounds, has been built up. The operator with a knife then slits the biscuit down one side in order to remove it from the paddle. Rubber so prepared contains a large proportion of moisture, but is stronger than any of the plantation rubber, and sells (March 16) for about $2.43 per pound.

AFRICAN RUBBER.

From the Kongo come large supplies of clean, black rubber, coagulated originally in large blocks, and then cut up into small cubes to permit it to dry and ripen. Kongo also ships rubber in reddish sausages collected directly from the tree, the reddish appearance being caused by small portions of the bark adhering. The value of this Kongo rubber is from $1.34 to $1.64 per pound.

The Gold Coast ships rubber prepared by the natives digging a trough in the earth and running the latex thereinto. In time the mass in the trough coagulates from the outside, forms a hard skin, and finally gets hard throughout. But this kind of rubber holds the moisture which was originally in the latex, and therefore such lumps often contain 50 per cent of water. This Gold Coast lump is worth about 73 cents per pound. On the Ivory Coast, the French Sudan, and in the Sierra Leone neighborhood, the natives collect rubber from the same trees, but give a great deal more pains to the preparation. The resulting product is known as "Sierra Leone Niggers" or "Konakry." This rubber is in large balls, consisting of strips carefully wound together, varying in size from an orange to a man's head. The rolling process is done while the strips are fresh and they become one compact ball. Rubber treated thus is of a reddish color, for which reason the balls are known as "red niggers," and sell approximately for $1.46 per pound. These descriptions might be multiplied indefinitely, but those given are sufficient to show in how many various shapes raw rubber arrives in the London market and what wide experience is necessary to judge successfully the values of the different kinds. It seems singular that values do not move up together on the different varieties. For example, the price of hard fine Para may be going up, owing to the demand, and the price of red niggers going down, and vice versa. Each grade has a market of its own according to demand. At the auctions on March 14 pale crepe was bringing as much as $2.49, while hard fine Para sold at $2.39, while two weeks previously these values were practically reversed.

SOURCES OF RUBBER SUPPLY.

Accurate statistics of the sources of supply of crude rubber are almost impossible to obtain, as the figures available are necessarily mostly estimated. These figures, however, have a relative value for the manufacturer of rubber goods. The following is the approximate supply, in tons: Amazon River with its tributaries, 39,000;

other districts of Brazil, 2,800; Federated Malay States, Ceylon, and Sumatra, 4,600; Belgian Kongo and French Kongo, 5,600; Portuguese West Africa, 2,900; West Coast of Africa, 9,500; Rangoon, Penang, Borneo, etc., 1,200; East Coast of Africa, Mozambique, and Madagascar, 800; Mexico, East Indies, and Central America, 1,500; total, 67,900.

CONSUMPTION OF RUBBER.

A general idea of the uses to which the different grades of rubber are put may be interesting. As a rule, it might be laid down that rubber which can be used in high-class work, such as motor tires, elastic thread, surgical goods, etc., can be also used for inferior grades of manufacture. The manufacturers vary their mixtures according to the price of the different grades, their efforts being to produce the cheapest possible mixture consistent with the selling standard of the product. It is true that high-class rubber can be used for almost anything, but the inferior grades can be used only for inferior articles, such as garden hose, door mats, rubber flooring, etc., where elasticity is not essential.

The product of the Amazon is approximately divided into three grades: Fine Para, about 24,000 tons; niggerheads of various descriptions, about 8,000 tons; and Peruvian ball, about 8,000 tons.

Motor tires.—Fine Para is the standard grade for motor tires for the entire market. It is bought and sold on name only, without samples being shown, and is the one grade which, generally speaking, can be used for the manufacture of all rubber goods. The present price is about $2.43 per pound, and manufacturers therefore economize as much as possible in its use, particularly as in the crude state it contains about 15 per cent of impurities, mostly water, so that by the time the manufacturer has washed and dried it he has a raw material that costs him $2.92 per pound. But for really high-class goods, such as the inner tubes of motor tires, the manufacturer has no alternative but to use hard, fine Para. No other rubber has the necessary strength to stand the strain. For the outer cover manufacturers are able to use with fine Para a certain proportion of other rubbers, niggerheads and ball, or fine plantation rubber and some of the medium grades. It is estimated that the present annual consumption of rubber for motor tires alone is not less than 30,000 tons. It is therefore evident that, without considering the cost of this high-grade rubber, the quantity of fine Para required for motor tires could not be obtained.

Rubber shoes.—The next article of importance is the rubber shoe. This one branch of the rubber industry finds its largest consumers in Scandinavia, Netherlands, Russia, and in other northern sections of Europe and in North America.

Other manufactures.—Another very important item of consumption for which nothing but hard-cure fine Para can be used is the so-called india rubber thread, used in the weaving of all sorts of elastic fabrics. It seems impossible, in the scope of a short report, to enumerate the many minor uses of rubber in the manufacture of articles that promote the comfort of the human race and which have become indispensable. The consumption of these articles shows no sign of decrease but rather a steady increase, in spite of the enormous rise in the price of crude rubber. It must be remembered, however,

that while the price of rubber has advanced, the costs of production, such as labor, power, canvas, and other expenses that go in the make-up of rubber goods, have not advanced.

MALAY PENINSULA.

REMARKABLE GROWTH OF THE RUBBER INDUSTRY.

In answer to inquiries concerning the yield of rubber in a well-managed plantation in the Malay Peninsula, Consul-General James T. DuBois, of Singapore, furnishes the following statistics from the Straits Times.

The fair average yield of rubber, per tree and per acre of 120 trees, at the several ages of the trees, are given as follows:

Age of trees.	Yield.		Age of trees.	Yield.	
	Per tree.	Per acre.		Per tree.	Per acre.
	Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
4 years	¾	90	8 years	4½	540
5 years	1	120	9 years	6	720
6 years	2	240	10 years	7	840
7 years	3	360			

The foregoing estimates are for estates on good average soil, under competent European management, where all that is possible is done to work for safe, immediate, and assured future results. The number of trees to the acre is fixed at 120, because where the number is greater the yield per tree will be proportionally less. The average cost of producing rubber ought to be put at about 30 cents per pound.

There has been a remarkable growth of rubber production in the Malay Peninsula during the past five years, as compared with that of Ceylon and India. The following shows approximately the areas planted with Para rubber during the past three years in the Far East:

Years.	Malaya.	Ceylon.	Dutch East Indies.	India and Burma.
	Acres.	*Acres.*	*Acres.*	*Acres.*
1907	100,000	150,000	70,000	.....
1908	185,000	180,000	90,000	30,000
1909	240,000	137,000	120,000	31,000

RUBBER PRICES.

In January, 1909, good sheet rubber realized $1.24 per pound, pale crepe $1.33 per pound. In May the prices commenced rising, until November when pale crepe reached the highest of the year, $2.35. The high prices obtained from July to November, 1909, arose from the rapid increase in construction of motor cars and taxicabs, especially in the United States, where enormous contracts for tires of all kinds resulted in a greatly increased consumption. Smoked rubber is superior in its resilient strength, and all fine rubber from Para is smoked as it seems more suitable for many purposes than the unsmoked product. The protein in rubber is preserved from decomposition much better after passing through the smoking process and

consequently the product brings a higher price, often as much as 12 cents a pound above the unsmoked. The world's supply of rubber in 1909 was about 70,000 tons, this being an increase of 5,000 tons over 1908.

FEDERATED MALAY STATES.

LARGE EXPORTATIONS LAST YEAR, WITH HIGH PRICES.

Consul-General James T. Du Bois sends from Singapore the following notes on rubber in Malaysia:

The average rubber price for 1907 was $1.26; for 1908, $1; and for 1909, $1.52 per pound. The price in the first week of January, 1910, was $1.85 per pound.

The total exports of rubber from the Federated Malay States during 1909 amounted to 6,087,815 pounds, an increase over the exports of 1908 of 2,822.215 pounds. Of the exports last year, Perak contributed 1,026,841 pounds, Selangor 3,572,535 pounds, Negri Sembilan 1,488,373 pounds, and Pahang 66 pounds. The prices being exceptionally high, the total shipments were valued at about $9,131,700.

BORNEO.

ESTATES DEVOTED TO THE CULTIVATION OF RUBBER IN NORTHERN PART.

In a report concerning the cultivation of the rubber tree in North Borneo, Consul Orlando H. Baker, of Sandakan, says:

A comparatively large trade in wild rubber, gathered by the natives of British North Borneo, has been carried on for more than 20 years, and as the groves planted in Para rubber trees are growing well, it evidences the suitability of the soil for the industry. The British North Borneo government guarantees dividends during the time the estates are not producing, but not beyond 6 years. Eight of the nine companies engaged in rubber cultivation, whose estates contain over 75,000 acres, have 7,817 acres under cultivation. Rubber is already produced by one of these companies, and will be produced by two other companies in 1910 and 1911, respectively. The others will be producing in from 2½ to 4 years. The ninth company, of recent formation, proposes to bring its entire estate, 5,000 acres, under cultivation at once.

SOUTH AFRICA.

EXTRACTING MACHINES OR CHEMICALS WANTED.

Consul Clarence A. Miller, of Matamoros, Mexico, reports as follows concerning machines or chemicals wanted in South Africa for the extraction of rubber from the bark of the landolphia vine:

As a result of a report of 1908, on the extraction of rubber from the Mexican guayule plant, this office has received a request from a London company to secure machines or chemical preparations for the extraction of rubber from the South African landolphia vine. As it is possible that American mechanics and scientists may be able to solve the problem, a copy of the letter, together with a photograph of the machine now in use in South Africa, is herewith forwarded.

LETTER FROM THE LONDON COMPANY.

In many parts of tropical Africa large quantities of landolphia are available, but the rubber can not be profitably collected because tapping by hand is ex-

pensive where slave labor is not available. Therefore, some other method must be provided, either chemical or mechanical.

Hitherto the governments have protested against the cutting of landolphia, as they were under the impression that it would kill the plants. It has now been proved that this is not so, and that it is quite easy to plant and grow landolphia, and that these vines will produce more bark per acre than trees.

Previously the bark was ground into powder and the rubber then washed out. This produced a dirty, heated rubber, less valuable than tapped rubber. By the new methods the bark is torn into small curly shreds, and the rubber is extracted from this by means of a centrifugal machine, somewhat similar to that used in the business of cream separation, or by working it through a roller sieve. By this means the rubber produced is more valuable than that produced by tapping methods.

Would say that if a good machine were produced, large numbers of them could be sold. (1) Because landolphia is so plentiful; (2) because more bark per acre can be obtained from vines than from trees; and (3) because this class of rubber is very tough and in demand.

[The address of the London firm is on file in the Bureau of Manufactures, together with the photograph referred to.]

BRAZIL.

EXPORTS OF CRUDE RUBBER TO THE UNITED STATES AND EUROPE.

The following statistics covering the exports of crude rubber from Brazil during the past year are furnished by Consul George H. Pickerell, of Para:

Prices of rubber during 1909 ruled very high, and exchange was very steady, notwithstanding which the percentage of increase has not been as great as was to be expected, and it would seem that the high prices at present ruling have had very little effect on stimulating an increased output. The year 1907 was, as regards prices, a very bad year, yet the percentage of increase was much greater than in the better year, 1909. But for the low waters in the upper rivers we would have had more rubber, but even had the percentage of increase been as high as for 1907 there would still be left something to explain.

The following statement shows the exports of rubber from Para, Manaos, Iquitos (in transit), and Itacoatiara during the calendar year 1909, in kilos of 2.2 pounds:

Class.	United States.	Europe.	Total.
Fine	9,493,610	9,817,431	19,311,041
Medium	1,790,866	1,927,065	3,717,931
Coarse	5,878,259	2,968,896	8,847,155
Caucho	2,678,643	5,116,318	7,789,961
Total	19,841,378	19,829,710	39,671,088
Exported from—			
Para	9,655,053	9,627,831	19,327,884
Manaos	10,068,945	7,356,417	17,425,362
Iquitos (in transit)	105,693	2,650,841	2,756,534
Itacoatiara	11,687	149,621	161,308
Total	19,841,378	19,829,710	39,671,088

The total exports of crude rubber from Para, Manaos, Iquitos, and Itacoatiara during the four years preceding 1909 were as follows, in kilos: 1908, 37,685,487; 1907, 37,514,152; 1906, 34,767,755; 1905, 33,916,888.

RUBBER ROOFING.

ENGLAND.

RUBBER ROOFING MANUFACTURED AND SOLD EXTENSIVELY.

Consul Horace Lee Washington, of Liverpool, in answer to an inquiry from manufacturers of a rubber-roofing material, as to whether such goods are sold in England, writes as follows:

It appears that rubber roofing is manufactured to a very considerable extent in England, the brand known as "Ruberoid" having, it is said, a sale of over 91,000,000 square feet per year. In appearance it is very similar to that sold in the United States. The prices per roll of 200 square feet, including accessories, is as follows, weights of rolls being also given: ½-ply, 44 pounds, $4.18; 1-ply, 60 pounds, $4.98; 2-ply, 82 pounds, $6.44; 3-ply, 100 pounds, $8.39.

Sixteen extra square feet are included with each roll to allow for laps at seams, etc., which, together with nails, tin caps, and cement for making the seams, are included without extra charge. The manufacturers allow about 25 per cent discount to agents, merchants, and builders.

In the north of England the No. 3 roofing is mostly in demand, and in the south, No. 2. It is a well-known fact that the British market is best approached through types and classifications to which it is accustomed. Other well-known brands in this market are "Rexolite" and "Congo."

To introduce a new roofing into this section, something very much like an advertising campaign and the exhibiton of samples would be necessary, and this would call for the activities of an agent. The address is forwarded of a leading firm in this line in Liverpool that is willing to correspond with American manufacturers of roofing material with this in view.

FRANCE.

ONLY ONE BRAND MARKETED IN MARSEILLES.

Consul-General A. Gaulin, in reply to an inquiry from a Cincinnati firm, writes that there seems to be only one brand of rubber roofing, "ruberoid," marketed in the Marseilles district. He says:

It is used to a limited extent on terraced houses, sheds, warehouses, and similar buildings; also for the covering and protection of interior walls and floors. According to local dealers, this product would have met with greater success in this region had it been more widely advertised. It is said that its insulating qualities are appreciated in the French colonies, where large quantities have been used, with excellent results.

This article retails in Marseilles at 1.15 francs to 1.25 francs (22.19 to 24.12 cents) per meter (3.28 feet) for the one-ply thickness, which is in greatest demand. The wholesale price for the same grade is 23 francs ($4.44) net per roll of 21 meters (68.89 feet) by 91 centimeters (35.82 inches), weighing 35 kilos (77.16 pounds). A competing product, which consists of cardboard impregnated with tar, retails at 30 to 40 centimes (5.79 to 7.72 cents) per square meter (10.76 square feet), and, owing to its comparative cheapness, is preferred to rubber

roofing. One of the drawbacks of this material is that it must be laid on a slight incline only, or on practically horizontal surfaces, as otherwise the tar coating soon disintegrates and ceases to be of any value.

In order to do a profitable business in this country it will be necessary for the manufacturers to get in touch with architects and contractors in the principal cities and to carry on a systematic and persistent advertising campaign. Dealers should also be liberally supplied with descriptive pamphlets in the French language, containing testimonials of well-known firms and establishments, with measurements in metric units and prices in francs.

BORDEAUX.

BETTER GRADES OF RUBBER ROOFING NOT ON SALE.

Concerning materials in use as roofing in western France, Consul Alfred K. Moe, of Bordeaux, writes as follows:

Investigation discloses the fact that there is not on sale in this city the material which has of late years become commonly known and used in the United States under the term rubber roofing. Roofing material is used to a very large extent, and is applied as in the United States, fastened down with laths or with nails driven in through tin washers. It is mostly of the oilcloth variety, and does not last long in spite of the rather mild weather throughout the year. One kind is thin and pliable, being manufactured of well-woven fabric and coated with a black oil. It is serviceable only for covers for wagons or for protecting merchandise from rain. The other variety is made of a coarse, heavy fabric, containing a quantity of tar covering coated with heavy oil. This grade is used for weather screenings and tarpaulin purposes. A still coarser grade of very much the same composition, except that the tar constituent is quite apparent, is covered with a top coating of sand and fine stone. This latter variety is the most largely employed in the covering of stables and houses where such covering is at all employed.

In this district shingling as practiced in the United States is unknown, nor are there many wooden dwellings. Wooden structures are erected for temporary purposes only. Permanent buildings are roofed with copper, zinc, or tiles. Still, as the use of tar-cloth roofing is very general in a small way, the trade might discover a very profitable market in this district if the proper means of advertising in French and of business representation were undertaken. The prices for local goods vary from 8 to 60 cents per meter (39.37 inches), of usual width.

GERMANY.

PROBABLE MARKET FOR AMERICAN RUBBER ROOFING.

Consul-General Robert P. Skinner, of Hamburg, furnishes the following information, in answer to an inquirer, who submitted samples of American rubber roofing with a view of securing a market for the product in Germany:

Investigation discloses the fact that the American product would have to compete in this country with a somewhat similar roofing material which has been well introduced throughout Germany, and

which was first put on this market by an American corporation, which set up its own plant near Hamburg for this purpose. The rubber roofing now fairly well known in this Empire comes in rolls of exactly 20 square meters (215.3 square feet), the width being 91.5 centimeters (3 feet) and the following prices per roll prevail, less 20 and 25 per cent: One-half ply, 41.9 pounds, $3.57; 1-ply, 61.7 pounds, $4.52; 2-ply, which is that most generally used, 83.8 pounds, $6.40; 3-ply, 99.2 pounds, $8.03. Special reductions are made for large orders. The German duty to be reckoned with is 71.4 cents per 220 pounds.

Still another article with which American rubber roofing would have to compete is an ordinary asphalt material called "Dachpappe." This sells at from 6.4 to 7.1 cents per square meter (10.764 square feet. The same material is also sold in rolls 39.37 inches in width.

HOW AMERICAN TRADE CAN BE SECURED.

A large contractor, whose views are disinterested, stated that the rubber roofing of German manufacture gives satisfaction generally, although it does not always adhere smoothly to the roof to which it is applied, becoming wavy in time. He thinks that similar roofing of actual American manufacture can be introduced successfully, if the exporters can meet German terms and improve upon them slightly, and provided the material is as good as or better than the roofing now available. This contractor found the sample submitted entirely satisfactory.

It will require considerable business energy and effort to build up a German trade in roofing materials, and the agency, if established, must be well organized and provided with trained salesmen for the purpose of visiting architects and builders regularly. It will be necessary to keep a large stock of goods on hand so that orders may be filled at a moment's notice, and it will be necessary, also, to have sufficient funds available to furnish any guarantee required. Some of the best orders for merchandise of this kind are placed by various federal, state, and municipal governments, and in these cases contractors are required to guarantee the durability of all building material used. This guaranty is required in the form of a deposit of government securities or cash to the amount of 10 per cent of the order, the papers, or money, being required to be deposited during from one to three years. Contractors cover themselves by requiring equivalent guarantees from manufacturers of materials.

[A list of possible buyers or agents in Hamburg transmitted by the consul-general, is on file in the Bureau of Manufactures.]

SPAIN.

PREPARED ROOFINGS ARE OF HOME MANUFACTURE.

Consul-General Frank D. Hill, of Barcelona, suggests an active agent to introduce into southern Spain a new article, such as rubber roofing. He writes:

Barcelona offers a very limited market for prepared roofings. This is due to the way in which houses of all kinds are constructed, with

a flat-roof garden called "terrado," the flooring of which is made of bricks or tiles, rarely of cement. In cases where houses have no terrado (small one or two story houses in the suburbs), the most popular material used for roofing is tiles. Other materials employed are galvanized zinc and slate, these being used more in the north of Spain.

The only prepared roofings known or used to any extent here are the so-called "carton-piedra" and "carton-cuero," mixtures of pasteboard and stone and pasteboard and leather, respectively. These materials, manufactured here, in sheets about one-fifth inch thick, are used almost exclusively as roofing for temporary buildings, sheds, etc. There are no importing houses in this line. Demand is small, and the home-made "carton-piedra" and "carton-cuero" are very cheap.

As rubber roofing is not specially mentioned in the Spanish tariff, and none has been imported at Barcelona, the local officials are unable to state definitely what the duty would be. They are of opinion, however, after examination of samples submitted by this office, that rubber roofing would fall under paragraph 19, "tarred pasteboard, felt, and cloth," on which the duties are 8.25 gold pesetas ($1.59) per 100 kilos (220 pounds).

In order to introduce rubber roofing at Barcelona it would be well to submit samples and catalogues to the local associations of architects and building contractors, as well as dealers in building materials. On account of the difficulty of introducting a new article, more could probably be accomplished by an active agent who would push the matter.

ALGERIA.

ROOFING TRADE MONOPOLIZED BY FRANCE.

The following particulars as to sales of prepared roofing and the terms required in the French North African colony of Algeria are supplied by Consul Albert W. Robert, of Algiers:

A considerable business has been done in this colony in rubber roofing, although limited by the high prices charged for the articles manufactured in France, which appears to have had a monopoly of the trade so far. An article called by the manufacturers "ruberoid" has had the largest sale. The prices are as follows: Per roll of 20 meters (66 feet), width 91 centimeters (29.54 inches), one ply, 42 francs ($8.10); two ply, 58 francs ($11.20). The customs duty on American goods of this class is 13 francs ($2.51) per 100 kilos (220 pounds).

The usual conditions of payment are: Cash, with discount of 2 per cent at the end of the month following that during which the goods were received, or at three months without discount. Business can only be done here by accepting established trade customs, and it is useless to begin by asking for payment before the goods arrive. People will not pay for articles they have not seen. Of course, if regular relations were once established, special agreements might be made if sufficient inducement were offered; but to start

with importers must be able to form an opinion as to the suitability of the goods.

All correspondence must be in French and quotations in metric weights and measures. Business would be facilitated by quoting in francs, but this is not strictly necessary, as the houses in this trade are accustomed to buying exchange. Prices, if possible, should be for cost, freight, and insurance, Algiers or Marseilles.

[Addresses of architects, contractors, and dealers in builders' materials or of agents who might handle rubber roofing accompanied five of the preceding reports. American exporters may consult these at any time in the Bureau of Manufactures.]

CANADA.

LARGE AND GROWING DEMAND IN WESTERN PROVINCES.

Consul-General John E. Jones, of Winnipeg, refers to the fact that it is not possible to obtain any authentic figures as to the importation into Canada of patent roofing during the past year, and says:

It is estimated that fully 200 carloads of patent roofing were imported from the United States in 1909 and used in the western provinces of Canada. The demand is rapidly increasing. In this country, where the price of lumber is high, the farmer and new settler are looking for a good substitute in every line where wood is used. The most important of these is a suitable roofing for his buildings, especially the granaries; for every farmer has several buildings where grain is stored and oftentimes held in reserve for months awaiting a propitious market.

The farmer has found that the patent roofing which comes in rolls, made from a base of asphalt, is the cheapest and best substitute for wood, and, being easily applied, it is used to the exclusion of anything else. Several American firms have representatives in Winnipeg, where large stocks of this material are warehoused for distribution, but the demand has far exceeded the supply, and the market is ripe now for thorough exploitation. It would be simply a waste of time to send anything into western Canada but the best. The farmers have realized that it pays better to use a first-class article at a good price than a mediocre one at a cheaper figure. There is one firm which sells patent roofing and guarantees it for several years. This firm enjoys a large trade.

Little, if any, of the roofing coated with broken stone or sand is used, the farmer preferring a heavier and smoother material, which he claims is more easily manipulated. In catering to the markets of western Canada manufacturers all bend their efforts toward the production of a roofing material both durable and fireproof. Railroads ramify through all the provinces, and granaries are built near them in order to load easily. Flying sparks from engines have destroyed millions of dollars' worth of property in western Canada, and the farmer requires roofing material that will not catch fire in this manner.

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RUBBER SHOES IN ENGLAND.

FAVORABLE MARKET FOR THE AMERICAN PRODUCTS IN LIVERPOOL.

The following report, covering the increasing use of rubber footwear in England, especially in the Liverpool district, is furnished by Consul Horace Lee Washington:

Formerly the wearing of an overshoe in England was regarded as an admission of weakness. Recently, however, a change has taken place, and light rubber shoes are now worn by men who a short time back would have regarded their wearing as inadmissible.

The growing use of the overshoe appears in London and in the larger provincial cities, however, rather than in the sections where a rougher climate and more disadvantageous street conditions exist. In fact, the use of the rubber overshoe grows in proportion with the disuse of the very heavy walking shoe.

THE TRADE IN LIVERPOOL.

The object of this report is to call attention to this growing change in the habit of footwear in the Liverpool district and to suggest to American manufacturers of rubber overshoes that there is a trade in prospect which it is well worth their while to study and to meet. The German competitor has realized this, and is placing on the market a cheap overshoe, but which is said by dealers here to be of an inferior quality.

Much of the trade for men's overshoes in this district is supplied by a Scotch company, but the American-made article of woman's overshoe is rapidly growing in favor.

It is of special satisfaction to note that such increase as the American-made article is making in this section appears to be accounted for, in addition to quality, by the advantages derived from a superior method of packing and arrangement for retail sale. The British make of overshoe is sent out to the trade in dozen pairs packed together, the result being that the gloss is frequently taken off and the appearance, when offered for sale, disadvantageous when compared with the American shoes packed in pairs in cardboard boxes and separated with paper to preserve the glaze. Just such attention is the turning point when competing prices can be met. The following statement shows the prices, wholesale and retail, for the British, American, and German product:

Description.	British.	American.	German.
Men's shoes:			
Wholesale	$0.48 to $0.79	$0.42 to $0.73	$0.42 to $0.60
Retail	.70 to .95	.60 to .90	.60 to .85
Ladies' shoes:			
Wholesale	.34 to .54	.34 to .54	Not on the market.
Retail	.47 to .70	.47 to .70	

There are no wholesale dealers of overshoes in Liverpool. The retail trade is supplied direct by the British manufacturer and by the London agents of the American and German manufacturers. [The names of large Liverpool retailers, to whom correspondence on the subject should be addressed, are on file in the Bureau of Manufactures.]

EXPOSITIONS AND CONVENTIONS.

INTERNATIONAL MEETINGS.

ENGLAND.

EXHIBITION OF FLYING MACHINES IN LONDON.

As an indication of the progress in aerial navigation, Consul-General John L. Griffiths calls attention to an exhibition held in London for the sale of flying machines. He writes under date of March 17:

When an aerial exhibition was held in this city in 1909 the machines were of such an experimental character that few sales were anticipated or made. However, at the present exhibition a standardized monoplane is offered for $2,190, with a guaranty of its efficiency. It was stated at the end of the first day of the exhibition that machines to the value of $15,000 to $20,000 had been sold.

Six Bleriot machines are on exhibition; also Short, Wright, Voisin, and Farman biplanes, and the Antoinette and Santos Dumont monoplanes. There is also a Gregoire monoplane on view, which is an intermediate type between the Antoinette and Bleriot. It is 34 feet in span, with a lifting surface of 367 square feet and a 30-horsepower motor. Two other monoplanes on exhibition are the Avis and the Star, which are attracting much attention. There is still a further biplane shown, the Zodiac II, the English rights for which have been acquired.

The following are the prices which are asked for some of the machines: Santos Dumont monoplane, $1,460; Bleriot "cross-channel" monoplane, $2,336; Antoinette monoplane, $4,866; Voisin biplane (E. N. V. motor), $3,796; Wright biplane (Wright motor), $5,839; Farman biplane (Green motor), $4,428; Farman biplane (Gnome motor), $5,450.

If one listens to the statements made by the representatives of the various flying machines it would seem not at all improbable that in the comparatively near future short flights may be made, as it is claimed that in a week or ten days the manipulation of any of the machines can be learned, and as one of the salesmen expressed it, he sees no reason why a man should not take an exhilerating flight through the air in the morning from his house to catch the train to town, or if he is especially adventurous he might go all the way in the machine to his office or place of business.

One, at least, is impressed with the progress that has been made, especially in the last twelve months, and since Bleriot made his dramatic flight across the Channel from Calais to Dover, conservative Englishmen have been considering the possibilities of utilizing flying

machines for practical purposes. The time is probably far distant when this will be realized to any great extent, but the ferment is on, and developments of far-reaching interest may be anticipated at almost any moment.

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SPAIN.

PLANS FOR THE INTERNATIONAL AFFAIR AT BILBAO.

Consular Agent Harry A. McBride writes that the proposed International Exposition to be held at Bilbao in 1912 is now practically a certainty. He gives the following details:

The committee sent by the city to Madrid to solicit the aid of the Government has presented its petition and it is expected that $517,000 will be appropriated for the project. The exposition will be of the greatest importance to northern Spain. In 1912 the immense wharf being constructed inside of the breakwaters of the exterior port will be completed and Bilbao will then possess the finest port and harbor along the northern and western coasts of the country. It is hoped that the exposition will help call attention to the unusual advantages and resources of this city as an industrial and commercial center.

The representatives in the city of the Republics of Mexico, Argentina, Brazil, Chile, Peru, Bolivia, Ecuador, Colombia, Venezuela, Uruguay, Paraguay, Cuba, Panama, Costa Rica, Nicaragua, Honduras, Guatemala, Salvador, and Dominica have presented to the exposition committee a document praising the success of the movement and expressing their desire that the exposition assume a Spanish-Latin American character. It has been decided to adopt this idea, and the exposition will be called the "Exposición Ibero-Americana Internacional." All of the leading firms and individuals of the city and province are deeply interested in the project and are using their influence to make it a success. The following article is translated from one of Bilbao's commercial journals:

The aspirations of the committee are not confined to only the Latin-American republics. In the plan of the grounds and buildings submitted to them appears also a large space to be devoted to all foreign countries, to be called "Plaza de las Naciones," in which all the powers, in a manner which the Government thinks suitable, will be able to exhibit the industrial specialties and improvements of their respective nations. The enormous progress made in electricity, metallurgy, and in all classes of machinery by these countries will serve as a profitable lesson to all who are interested in these lines. The immense revolution which has taken place in the cultivation of the soil, due to marvelous modern agricultural machinery, which will be exhibited at that time, will be of great and transcendent importance to the Spanish nation, and in particular to the districts of Rioja, Castilla, and Arragon. If to all this be added the possibility that, in view of the termination of the works in the exterior port, one or more squadrons of the said nations should assemble in the harbor during the exposition, the solemnity which such an occurrence would give at that time would be of immense importance.

The total cost of the exposition is figured at $1,280,000. The following are the edifices, etc., which it is proposed to erect, and their estimated cost: Building of State, $36,000; Palace of Fine Arts (which will be a permanent museum after the exposition), $155,000; Palace of Industry, $60,000; Pavilion of Mines, Transportation, and Metallurgy, $50,000; Agricultural, $22,000; Floricultural, including

six large greenhouses, $10,000; Corporation, $23,000; Women's, $22,000; Grand Casino, $52,000; stadium, with track, grand stands, tribunes, fountains, and gardens, $69,000; monumental arch, $17,000; terraces, entrances, inclosures, sustaining walls, and leveling and preparing the grounds, $180,000; building for amusements, $43,000; aereodrome, $7,000; pavilion for automobiles, motor boats, etc., $16,000; stairways, "paseos," wharves, and quays, $17,000; royal pavilion, $35,000; sundry expenses, $39,000; administration, promoting, and advertising, $268,000. The committee already has $172,000. The city of Bilbao and the Province of Viscaya together propose to give $603,000 toward the project, and therefore, with the $517,000 which the national Government will, in all probability, appropriate the entire amount will be raised.

NATIONAL EXHIBITION AT VALENCIA.

OPPORTUNITY FOR AMERICAN DISPLAYS FOR TRADE EXTENSION.

In further reference to the Spanish exposition at Valencia, Consul Robert Frazer, jr., calls attention to the opening it presents to American manufacturers who will act quickly.

The regional exhibition inaugurated at this city last year, and which was generally limited to products of the three eastern or Mediterranean provinces, which constituted the ancient kingdom of Aragon, was such a remarkable success as an artistic presentment of the life, industries, and agriculture of the district that is has been decided to reopen it in April as a National Exhibition, enlarging its scope and character and increasing its area and buildings so as to furnish ample accommodation for exhibits from the whole of Spain. To encourage the undertaking the Government has granted a preliminary subsidy of $360,000, and judging from the active support accorded by other Spanish regions the exhibition promises to be a splendid review of the resources and capabilities of modern Spain in mining, industrial, agricultural, and artistic progress.

Foreign exhibits will also be welcomed, especially those of general utility for this country or calculated to help in fostering national industrial development and education. The opportunity is an excellent one for American manufacturers, and as an advertising medium quite unique for the introduction of the latest types in characteristic lines of American goods still imperfectly known here, among them agricultural machinery and implements of small and medium sizes, adapted to one and two horse farming; light steel plows, with one handle and double moldboard, extensively used here in the cultivation of vines; rice hulling and milling machinery; lumber sawmill supplies; electric motors and electric power and light supplies; hardware; tools; school furniture and supplies; surgical and scientific instruments; dental and opticians supplies; and grain and forage crushing machinery for cattle feeds; freezers and ice-making machinery; knitting and sewing machines; and high-class leather, especially light and medium weight patent kid (dongolas) and chrome-finished goods. In many of the lines named, American manufacturers and exporters possess stocks at European distributing agencies, and should experience little difficulty in forwarding sample lots to

Valencia for exhibition. Foreign exhibits will be admitted duty free, and in most cases a reduction in transportation rates will be obtainable on all exhibits.

Space can be had in the official buildings at about $3.50 the square meter (10.76 square feet).

With regard to agricultural machinery and implements, with a more extended use of fertilizers, a marked advance in agricultural methods has been initiated, and there is a general tendency to discard old types of implements of husbandry. At present the shapes and weights most fancied by farmers are French models, probably because the agricultural conditions of southern France bear a close analogy to those obtaining on this coast.

ITALY.

INTERNATIONAL PRIZES FOR IMPROVED ROAD MACHINES AND PROCESSES.

According to Consul Albert H. Michelson, the provincial council of Turin, in association with certain sister councils and with other bodies, proclaims, in connection with the World Exhibition in Turin in 1911, an international competition for machines and processes which shall represent improvements over systems and methods now employed for maintenance of common roads of crushed stone or gravel. The consul continues:

The promoters of the competition have already over $8,000 and expect to bring it to $12,000 for prizes. Any machine for road building, maintenance, or repair, and any process for road improvement, may compete. Prospective American competitors should apply (not later than July) for admission to the Executive Committee of the Exhibition of 1911 (Commissione Esecutiva per l'Espozione Internationale di Torino, 1911), either directly or through the International Exposition Bureau, 41 Union Square, New York City. This bureau officially represents the exhibition of 1911 in the United States and can furnish complete information regarding it.

Complete information concerning road conditions in Italy, with especial reference to conditions in and about Turin, may be obtained from a report prepared by this office entitled "Construction, repair, and administration of roads in Italy and the Province of Piedmont" [the manuscript copy of which is on file for public reference at the Bureau of Manufactures, where may also be seen the translated Italian rules and regulations governing the present competition].

RUSSIA.

SUCCESSFUL VISIT OF THE FLOATING TRADE EXHIBITS TO PALESTINE.

Deputy Consul John D. Whiting, of Jerusalem, was delegated by Consul Wallace to visit the Russian floating exposition which was at Jaffa on January 28 and 29. Although a description of the vessel has already appeared in Consular and Trade Reports, showing its success at Constantinople, the following extracts from Mr. Whiting's report contain much of additional interest:

In Palestine Russian lumber, kerosene, flour, rubber shoes, etc., have been extensively sold, but not because of special endeavor by

manufacturers. Therefore the news of this large and novel enterprise came unexpectedly. Over the top of the holds in the vessel were fancy tents, while hemlock and pine trees were about the decks and on the carpeted staircases. The ceilings of the holds were specially painted and ornamented. The place was lighted by electric bulbs in fancy chandeliers of flint glass, and most of the furnishings were finished in verd-antique. Along the sides and in the center of the floors were stalls and cases of samples. Goods, samples, and agents from 133 Russian firms were on board. The three modes of exhibiting were by cased samples bearing the name and address of the firm on each; samples of merchandise with an agent to take orders; and samples with agents not only to take orders, but also to sell at retail for introducing goods to the public.

VARIED EXHIBITS.

Cloth goods of all kinds, especially woolen goods and printed cotton, formed the largest exhibits. There were silk goods woven with gold and silver, such as are used for ecclesiastical purposes in the Eastern churches, and other articles for church use made of gold and silver, and set with precious stones, which were much admired. The exhibits of tea and teakettles (samovars) were conspicuous. All kinds of both black and green were to be seen; also tea compressed into slabs, designed especially for the Tibet trade.

The lumber exhibits included samples of logs, planks, boards, fellies and hub material of ash, bass, beech, birch, elm, maple, pine, and alder woods. The department of minerals was one of the most attractive. One exhibit showed an entrance to a coal mine with its cars, picks, and lanterns, and another a coal mine interior, at the side of which, made of stained glass lit from behind by electricity, was the representation of a smelting furnace in operation. This department was in charge of a member of the Mining Association of South Russia, which expends nearly $500,000 per annum in furthering the interests of this industry. Through him all orders were sent to special syndicates to be apportioned among the mines. They claim that Russian anthracite coal is better than English, and only equaled by American, and that it contains 92 to 95 per cent of carbon. Prices on anthracite coal were quoted at $6.80 per ton f. o. b. Jaffa, in lots of 1,000 tons and upward.

There were photographs, plans, and models of railroad engines, cars, river boats, steamer engines, and bridge work, as well as samples of electric dynamos and an ice machine in operation. Farm implements were plentifully shown. Most of them were intended to be modeled after American patterns. The agent remarked that the United States was selling a large quantity of such goods in Russia. Quite a large stall was devoted to the sale of articles made by the peasantry. There were all kinds of wooden tongs, poker-burned work, embroideries, etc. The exhibits of linen were slight, and there seemed to be no display of enameled silver work nor of petroleum oil.

THE BUSINESS DONE BY THE EXPOSITION.

The following is a list of the articles in which the largest business was done: Lumber, flour, perfumery, rubber goods, anthracite coal, raw sugar, mineral waters, preserved fish and meat, caviar (roe), and some kinds of furniture and woodwork. All of the business done in these articles, excepting the first four, is believed to be the direct

result of the exposition. The Russian American Rubber Shoe Company, of St. Petersburg, said to be the largest of its kind in the world, with an annual output of 50,000,000 pairs, was among the exhibitors, and found Constantinople a large market for its wares.

There seemed to have been only one lumber concern doing business, and the orders of their agent were so large, amounting to $135,100 before getting to Alexandria, that he was unable to fill additional orders and returned to Russia. Anthracite coal found a ready market in Turkey in Europe and in Bulgaria, the latter country giving orders amounting to $78,250. Raw sugar was ordered in large quantities by the refineries in Egypt. The finished product is said to be too expensive for these markets. A certain quantity of caviar was retailed, and the sales were so brisk that before reaching Jaffa all of four lots, which had been received on the way, was sold. Perfumery and toilet soaps were sold in large quantities at retail, and wholesale orders were taken.

At Jaffa, according to the custom-house official reports, about $308,000 worth of goods were sold at retail to the visitors, and it is roughly calculated that orders amounting to an equal or somewhat greater sum were taken. It is impossible to obtain at present the exact statistics of the entire volume of business done. However, after the return of the ship to Odessa a complete report of the business done will be published.

ITINERARY AND VISITORS—SUCCESS OF UNDERTAKING.

The steamer started from Odessa, going first to Yalta to be formally opened by the Tzar, and then returning to Odessa, and thereafter visited 24 ports of the Black and Mediterranean seas, remaining from 1 to 12 days, according to the importance of the place. At Burghes it was visited by the Tzar Ferdinand, who spent five hours on board, making purchases for nearly $1,000 and ordering to the amount of nearly $20,000 more, half of which was for silks.

At Constantinople the grand vizier and all of the ministers and royal princes were visitors. One day was set apart for Turkish ladies. One Sunday 25,000 visitors are said to have gone on board. At Mount Athos it was inspected by the Greek patriarch, at Piræus by the King and Queen of Greece, and at Alexandria by the English officials of importance and the patriarch of Cairo. On the whole route it was visited by the consuls of the various nations represented.

The agents of the steamship company at Jaffa made special arrangements with the boatmen to carry passengers out and back for the equivalent of 12½ cents each, and also procured a rebate of 30 per cent on the railroad fares, and arranged for a special train for those wishing to visit the exposition. These specials were filled and many also went on the regular trains. Posters were put up in advance and the people flocked to Jaffa from all directions to go on board. Merchants carried with them in some instances as much as $1.000 each for buying goods.

Well-to-do natives were much interested in washstands with marble tops and backs, having stationary basins let into the top, similar to those generally used in American bathrooms, the used water running off into a bucket below, and clean water being fed to the basin from a tap above. Several orders were taken for these. Hatboxes made of thin three-ply boards bent round, and with leather straps to close

them, which at the same time served as handles, were bought by European ladies, the agent stating that he had already sold 4,000 and had ordered more to meet him in Beirut. Chairs and tables made of rattan sold well. The prices were reasonable, and the natives show a liking for this style of furniture.

During the day the ship was gaily decked with flags, and at night was illuminated with a row of electric lights of all colors around the ship's edge, and another row from bow to stern over the top of the masts. On each side was a large sign in electric lights bearing the words "Exposition Russe."

The general opinion of the merchants in this section seems to be that without a doubt this exposition will further greatly the interests of Russian manufacturers, and that the samples and merchandise were of good quality, although a little high in price. The officers of the company on board were evidently well pleased with the results, and they stated that in April or May next this steamer, or a larger one, with two freight steamers following with extra supplies of goods, will start on a similar trip.

The question was asked several times why the United States did not extend her trade in the same way, and whether she would not do so.

RUSSIAN COMMERCE WITH TURKEY.

RETURN OF THE RECENT FLOATING EXPOSITION TO ODESSA.

Commenting on the possible results from the recent Russian trade exhibition on board the steamer Nicholas II, Consul John H. Grout, of Odessa, says:

Not more than 40 or 50 years ago Russia might have been described properly as a purely agricultural country which had to import from abroad most of its manufactured articles, from sewing needles to Krupp guns, from sewing thread to wire hawsers, from cooking pots to ocean steamers, and so forth. But times change. Internal and external peace and a better understanding of the dictates of sanitation, aided by a rapid increase in density of population, led the people to consider providing their own manufactured articles, followed by overproduction in some lines. The floating exhibition which has just returned to Odessa from an extended tour was devised to find new outlets for such Russian-made goods. The Russian Steam Navigation and Trading Company, to whose initiative largely the exposition was due, gave the use of one of its best ships at a cost to the company of nearly $125,000. Representatives of the 132 firms providing exhibits were carried free, only having to pay for their food. The ship left Odessa in February and made a circular tour of Black Sea and eastern Mediterranean ports, carrying a most varied assortment of manufactured goods and samples.

As to the practical results obtained by this exhibition it is difficult to express an opinion. Views here seem to be divided. One hears of orders having been placed, but the future will show whether these can be profitably carried out and whether all those who have given orders are able to take delivery on acceptable trade terms. The fact that the exhibition was visited by enormous numbers, each paying a small fee for entrance, is no criterion. The figures dealing with exports from Russia to Turkey, and the imports from Turkey to Russia for a num-

ber of years, covering half a century, display such a high degree of stability that it must be questioned whether the floating exhibition will bring about any very sudden or appreciable increase in the volume of the commerce between these two countries, which have in reality had all the time long-established trade relations. In 1859 Russian exports to Turkey amounted to $3,648,775, and in 1867 they were approximately the same, 1868 showing an exceptional increase to $11,330,000. After an interval of 32 years they had reached but $13,287,000, a figure not since then attained, $10,958,685 having been the amount for 1908. At the beginning of the period under consideration Russia's imports from Turkey nearly equaled her exports to that country, having been $3,112,145. For several years they remained nearly the same, or were even less, and after over 40 years were very slightly increased, the figures for 1901 having been $3,862,500, while 1908 shows but $3,482,945.

SUCCESS OF RUSSIAN FLOATING EXHIBITION AT SMYRNA.

Consul-General Ernest L. Harris also reports on the Russian Floating Exhibition, which has been visiting the chief ports of the Levant:

It is stated that the enterprise, generally speaking, has met with great success. While the ship was at Smyrna large numbers of articles were purchased by visitors, chief among which were caviar, furs, and cutlery. A large number of orders for future delivery were also placed by local wholesale dealers.

CHINA.

OPENING OF PROVINCIAL EXHIBITION AT NANKING.

Vice-Consul Albert W. Pontius reports that the local Chinese authorities, assisted by the native chamber of commerce, on February 19 officially opened the Wu Ch'an Hui, or Provincial Exhibition at Nanking, which he describes:

The buildings are in a public park in the native city. All the foreign consuls were present and a gala occasion was made of the event by native officials and merchants. The main purpose of the exhibition is to gather in advance all the provincial exhibits intended for the Nanyang Exhibition, to be held during the coming May–October. Many native products, including various lines of manufactured goods of this province, were displayed, and the keen interest shown by the officials and merchants augurs well for the national exhibition to come. The exhibits are to be shown for a month or more and will then be moved to the provincial building set apart for the purpose at the coming exhibition.

Similar provincial exhibitions are being held in every province of the Empire, and these displays have excited enthusiasm wherever instituted. The collection of the exhibits is being thoroughly organized by the various chambers of commerce. Full directions are published with regard to their collection and transit, the exhibits being shown for some weeks before being shipped to Nanking and displayed in the different provincial buildings erected.

RECENT INVENTIONS.

GERMAN WATER SOFTENER.

PERMUTIT, NEW GERMAN COMPOUND, SAID TO BE OF GREAT VALUE.

A recent development in Germany of a method, commercially practicable, for rendering hard waters completely soft and preventing boiler incrustations is described by Special Agent Julien L. Brodé, as follows:

A German chemist, Dr. R. Gans, professor and chief of the Laboratory for Soil Investigations of the Royal Prussian Geological Institution of Berlin, has lately solved the problem of the complete and rapid softening, on a large scale and at slight expense, of even the hardest of waters. It consists in a rapid filtering of the water through a composition named "permutit," by which the calcium or lime, manganese, iron, and magnesium compounds, which render the water hard, as well as the microbes it may contain, are, it is claimed, wholly removed, a result hitherto unattainable outside of the laboratory of the chemist, all other processes having left 2 to 3 per cent of these substances in the water. When desired the compounding of the permutit may be such as to leave either the lime or magnesium in the water. It is also stated that by permutit filtering gold can be obtained quantitatively from solutions as thin as sea water, containing 0.006 gram to the ton. Furthermore, the water filtered through permutit when used in boilers will leave no incrustations, which cause cracking, and will therefore greatly reduce the expense of cleaning the boilers. Another important economy which is claimed for this system is the saving of fuel, the completely softened water requiring much less coal to convert it into steam than is required by hard water.

A cubic meter (35.3 cubic feet) of water of 20 German degrees (25 English degrees) of hardness requires 2,400 grams (5.3 pounds) of hard soap to overcome its hardness, which amount is therefore wasted. A steam laundry in Berlin which gave permutit a trial made a saving of more than 50 per cent in soap. Some of the best-known manufacturing establishments in Germany have experimented with permutit, and the company which controls the manufacture of the compound has excellent testimonials as to its efficacy as a water softener and preventive of boiler incrustations.

MANNER OF PREPARATION AND USE.

Permutit is obtained by smelting alumina (clay or argillaceous earth) with an alkaline carbonate (carbonate of sodium) and the addition of quartz. The resulting compound, after having been washed until free from alkali, is a granulous or even laminated soda-aluminum silicate or natrium-zeolith, which is capable of exchanging its entire content of sodium, not only for calcium and magnesium,

but also for metals. If, for example, the water to be softened contains in solution lime sulphate or sulphate of calcium, the latter will, when brought into contact with permutit, part with its lime or calcium, which is replaced by sodium, so that there remain in the filter sulphate of sodium and calcium-zeolith. This reaction may be expressed chemically as follows: $Na_2Al_2Si_2O_8+CaSO_4=CaAl_2Si_2O_8+Na_2SO_4$.

When the attractive power of permutit for the lime or other substance which renders the water hard has become wholly exhausted, it may be completely regenerated by the use of common salt, or even denatured salt, which in Germany costs about 75 cents per 220 pounds. The cost of maintaining the filter after installation is therefore very small. The action of the salt in the regeneration of the permutit consists simply in replacing the element of calcium in the calcium-zeolith with two parts of sodium, thus giving the original natrium-zeolith. The following formulas show this chemical change: $CaAl_2Si_2O_8+2NaCl=Na_2Al_2Si_2O_8+CaCl_2$. The affinity of the calcium in the zeolith combination being stronger than that of the sodium, an excess of the salt must be used to effect the complete transformation to the sodium-zeolith. The operation is simple. The salt is first dissolved in requisite quantity, and after the filter has been freed from water at the close of the day, half of this brine is allowed to flow in and remain two hours, after which the outlet, and at the same time the inlet, are so regulated that the remainder of the brine will flow through the filter during the night. The following morning the filter is flushed until the surplus salt and the deposit of bichloride of calcium which has been separated from the calcium-zeolith have been completely washed away. It is then ready for use again.

COST OF INSTALLATION.

Permutit costs about 17½ cents per kilo (2.2 pounds). A plant using for 10 hours daily 35.3 cubic feet per hour of water having 25 English degrees of hardness needs about 220 pounds of permutit. The apparatus to hold this quantity, including the mounting, costs about $82. Such plants complete are being sold by the company controlling the patents for about $250. The filters that were tried the latter part of 1909 were so successful that the company has received many orders in advance of its ability to fill them.

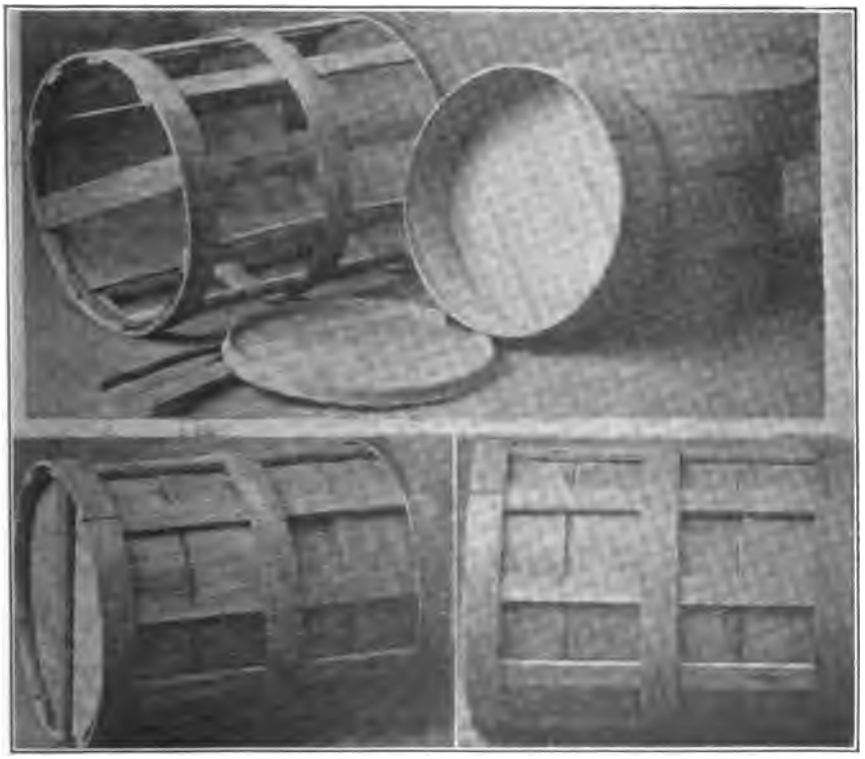
It is the company's intention to sell to individual firms in other countries the right to manufacture the composition. Some of the European rights have already been sold. An American company is negotiating for all rights for manufacturing in the United States, for which a large sum and a royalty for each pound manufactured are asked. The city of Breslau is said to be considering the installation of the permutit system for the softening and purifying of its entire water supply. All bleaching plants, breweries, dye works, laundries, paper factories, sugar refineries, tanneries, and wool-washing plants, will take a special interest in this new development, while every establishment using hard water in steam boilers will recognize at once the advantages which a cheap and rapid softening of the water would present.

[Special Agent Brodé forwards copies (in German) of two lectures on practical aspects of the subject under consideration, which were delivered by prominent German authorities; also circulars of the permutit filter company, with the address of the firm which will negotiate for rights, all of which may be consulted in the Bureau of Manufactures.]

NEW GRAPE BARREL.

A CYLINDRICAL COMPARTMENT DEVICE INVENTED IN SPAIN.

Consular Agent A. E. Carleton, of Almeria, Spain, reports the invention at that place of a barrel for grapes, for which many advantages are claimed. The barrel is cylindrical, and has four compart-



ments, so constructed that the grapes will receive all needed ventilation. Each compartment will hold 12 pounds of fruit, which will keep better, it is claimed, than in the present barrel where the whole quantity, say 50 pounds, is packed together. The entire barrel can be made by machinery and there is pracically no waste of wood. Any kind of wood may be used. A company has been formed to exploit the invention and enough orders have already been received to warrant the purchase of the machinery needed. The name of the inventor is on file at the Bureau of Manufactures.

A SINGLE-STROKE ENGINE.

GREAT SIMPLICITY AND POWER CLAIMED FOR NEW INVENTION.

Consul Benjamin F. Chase, of Leeds, mentions the salient features of an invention of promise recently made in England:

The development of automobiles, motor boats, and aeroplanes has caused a demand for some form of simplified engine which will do the work of more complicated types, and as effective and less weighty and intricate. This demand seems to have been met, in part at least, by a new type of valveless one-stroke engine, the joint invention of Mr. George Enderby and Mr. Henry Johnson, of Harrogate, England. In an article on this new engine the Yorkshire Observer says:

In design and in principle the Harrogate engine may fairly claim to be evolutionary, for it has only three working parts and gives four explosions or working strokes for every two revolutions of the crank shaft. In other words, it means that each cylinder is equal to four cylinders of the well-known and prevalent Otto type in the number of working or explosive strokes. It will give a reduction in space occupied of 75 per cent, and in weight, taking each type without flywheel, a reduction of 50 per cent. * * * As compared with the two-stroke, it is claimed that the difficulties peculiar to this type—the exhausting or the scavanging of the exploded gases and the effect of the residue of the latter upon the induction of a fresh charge—have been successfully overcome in the most positive manner, while an additional advantage is that the new engine is double acting, a feature obtained without the addition of any moving part.

The inventors claim a saving of 66 per cent in the cost of manufacturing, and upon a request for more information, say in a letter:

The ideal and popular engine under this system would probably consist of three cylinders, which would have only 7 working parts, and taking the speed of crank shaft to be 1,000 revolutions per minute, there would be 6,000 working strokes during the same period. Comparing it with the popular engine—that is, a 4-cylinder of the present or Otto type, running at the same speed, 1,000 revolutions—the number of explosions or working strokes would be 2,000 during the same period, so that with the new engine even with one cylinder less the torque is three times as continuous; but taking the fact that the new engine is absolutely devoid of valves with springs, the speed of it is considerably faster and the turning movement is more like that of a turbine than an internal-combustion engine with piston and connecting rods, and this new type of 3-cylinder engine would be equal to a 12-cylinder engine of existing type.

With the great continuity of torque from the new engine there would be increased life of wearing parts as well as tires on a motor, as it would be very rarely necessary to change gear, and the present type of gear box could be replaced with a smaller one having only a direct forwarding and emergency climbing and reversing gear; also on account of the saving in weight and space, together with the point of continuity of torque, the chassis could be made considerably lighter throughout.

The comparative practical value of this new engine is a matter for future development, but from its description and the advantages claimed for it by the inventors and corroborated by others who have witnessed the tests made, it may safely be said to be a new and valuable addition to motive force and to fill a want long realized by seekers after efficiency and simplicity in such matters.

[A more detailed technical description with illustrations of this engine accompanied Consul Chase's report and is on file for consultation in the Bureau of Manufactures.]

GASLIGHT INVENTION.

A FRENCH DEVICE FOR EFFECTING A SAVING IN EXPENSE.

Deputy Consul-General Bartley F. Yost, of Paris, transmits to the Bureau of Manufactures two circulars in French containing illustrations of a recent gaslight invention, which he thus describes:

The Bec Economiqué Galilé gaslights invented by M. Galilé, of Nancy, France, are enjoying a large sale in this country owing to their inexpensive operation. While the invention is patented in Europe and the United States, yet it is my understanding that the lamps are not yet manufactured in the latter country. It would therefore seem that American manufacturers of gaslights would be greatly interested in this new invention and would find ready sale for the lights.

A number of different models of these lights were on display at the Exposition d'Alimentation, recently held at Paris, where they attracted much attention. A gold medal was secured for one of the lights at the Exposition de Nancy the past summer. The lamp proper is of medium size and may be attached to an ordinary gas fitting. Instead of having a mantle suspended from the gas-burner, as with the ordinary gaslight, the pastille is placed upon a perpendicular metal bar which is placed parallel to the gas feeder, the latter being bent and pointing toward the pastille at right angles. The feeder is perforated and may be shifted back and forth at will according to the amount of gas one desires to employ. The pastille, instead of being cone shaped, is a disk about one-fourth inch in diameter and is stretched across a tiny metal frame. The feeder is operated by a thumbscrew. A disk will wear five or six months, and they may be purchased at 40 cents per dozen. The small amount of gas consumed by this light is the special attractive feature, five liters being sufficient for one hour's use. At this rate the expense of the light would be reduced to a minimum of one-fifth of one cent for 12 hours. The light casts a soft white light, and while not especially intensive is of a sufficient brilliancy for a hall, stairway, telephone booth, lavatory, or place where a strong light is not needed. Without the globe this light retails locally at 6.5 francs ($1.25). It is said to be perfectly safe and odorless and always ready for use.

The other light to which reference is made, the Bec Combiné Galilé, has an ordinary large mantle in addition to the disk referred to and produces a much stronger light when both pastilles or only the larger one is in use. If desired, only one at a time may be used. This lamp is designed for kitchen use, hotel offices, and other places where a continued light is unnecessary. It is also very inexpensive. The regular price without the globe is $1.65, with an additional 10 cents for the globe. This light was invented only a few months ago and is apparently not known in the United States.

NEW ELECTROPLATING PROCESS.

DEMONSTRATION IN ENGLAND OF A NEW SIMPLE HOUSEHOLD METHOD.

Consul-General John L. Griffiths, of London, describes a method recently devised by a resident of that city for replating various metal wares which promises to be of value in all households:

"Galvanit" is a granular powder for a new method of electroplating. Augustus Rosenberg, of London, the inventor, claims that the process is so simple, expeditious, inexpensive, and effective that it is easily within the reach of every household. In a recent demonstration before the British Royal Society of Arts the inventor showed the many ways in which it may be applied. The powder is sprinkled on a moist cloth and rubbed on the surface to be plated, just as a metal polish would be applied. The desired result is obtained in a very few seconds. No preliminary cleaning of the surface is required, and no heat is necessary.

Worn electroplate can be renewed with a deposit of silver, dish covers and the insides of cooking utensils may be retinned, taps may be renickeled, and numerous articles in daily use may be recoated with their respective metals.

In the electrical industry the inventor claims that the process will simplify and minimize the work of soldering cable joints, because no preliminary scraping or cleaning of the wire is necessary. The life of zinc and copper process printing blocks may be indefinitely prolonged by periodical coatings of nickel that renders them impervious to the reddish inks which usually eat into the unprotected metal.

The galvanit powder is composed of three essential ingredients: (1) The metal to be deposited, either in pure or combined form; (2) a salt capable of producing an aqueous electrolyte when brought into contact with moisture; (3) a metal which is electro-positive as regards the metal to be deposited. The combination may be used for depositing silver, tin, nickel, or cadmium, on any metal surface except aluminum, and it is claimed that aluminum can be plated when the ingredients are in suitable proportions.

[Consul Charles N. Daniels, of Sheffield, also makes a report on the new electroplating process, which had been demonstrated there before an audience of 500, made up largely of practical men interested in the trade.]

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TRADE EXTENSION.

MARKETS FOR FIREARMS.

FRANCE.

BELGIAN AND SPANISH REVOLVERS SELL AT LOW PRICES.

Consul-General A. Gaulin, of Marseilles, writes that the trade in firearms, other than the regulation arms of war, is entirely free in France, and that there is a steady sale of small-caliber revolvers. He furnishes the following particulars as to the trade:

There is a demand for revolvers by all classes of people here, this habit having been acquired previous to the reorganization and increase of the police force. Watchmen and people living in the suburbs particularly buy them, and the cheaper makes are largely carried by the numerous dock workers employed in this port.

The Browning automatic pistol, 7 shot, 6.35-millimeter bore, with safety catch, at $8.70 and 7.65-millimeter bore, at $9.65, is much in favor. Belgian revolvers are the most in evidence, particularly small pocket sizes, 6.35-millimeter bore, 5 shot, 2 to 3 inch barrel, hand ejector, well finished, selling at $4.80 to $5.80. The triggers of these fold flat against the weapon, and safety catches are a general feature. One dealer has just sold several Belgian revolvers, 2½-inch barrel, .32 caliber, 5 shot, automatic ejector, of excellent finish, at $6.75, and he claims that the American arm of similar model could not be sold for less than $11.50 to $12.50.

Spanish imitations of established makes are beginning to sell readily at extremely low prices. In a wholesale catalogue submitted to a local merchant, the bulldog type, 5 shot, hand ejector, .32 or .38 caliber, bronzed or nickeled, rubber handle, is quoted at $1.16 and $1.20, wholesale, Spanish factory price; another, 2-inch barrel, swing-chamber automatic ejector, 8-millimeter bore, at $2.70; a double action, 5 shot, 7.9 or 12 millimeter bore, bronzed or nickeled, hand ejector, at $0.77; a 5 shot, .32, .38, or .44 caliber, hammer revolver, with automatic ejector, bronzed or nickeled, at $1.73; an imitation Smith & Wesson, 5 shot, .32 or .38 caliber, 3-inch barrel, automatic ejector, bronzed or nickeled, at $2.31. While the latter arms are not favorably considered by first-class dealers, they find a ready sale in the cheaper shops, one wholesale merchant disposing of as many as 300 monthly of the small 5-shot pocket model, at $1.93 to $2.31 each.

AMERICAN ARMS TOO HIGH IN PRICE—TRADE IN SHOTGUNS.

All the dealers visited agree in finding the American arms, while of standard quality, too dear, and there would seem to be need for

a careful study of the models of competitors by American firms if they are to recover their former position in this market.

All the revolvers other than American on sale here fire the sheeted cartridge (balles blindées), which are much preferred, owing to their greater penetrating power.

The trade in shotguns, except as mentioned, is free. A permit is required for game shooting, for which a tax of about $5.50 annually must be paid. There are two target-practice grounds in the city. The French army rifle is almost invariably used, being sold upon application by the Government upon special terms, the weapon being thereafter nontransferable and subject to recall without compensation at any moment. Single-barrel shotguns are hardly ever employed, double-barrel guns being used almost exclusively for game shooting.

BORDEAUX.

CHARACTER OF TRADE IN REVOLVERS AND SHOTGUNS.

Consul Alfred K. Moe, of Bordeaux, writes that in that city it is expressly prohibited to carry firearms which may be easily concealed in the pocket, the penalty being fine or imprisonment. The carrying of revolvers conspicuous because of their size is permitted and their sale authorized. He adds:

Revolvers are used principally among the student classes and the small revolver is in favor because of its convenience. The caliber ranges from 5 to 8 millimeters. No one make is more popular than another, the sixshooter costing from $3 to $8 being most commonly known.

The restrictions governing the use of shotguns are similar to those in regard to revolvers. Hunting is in great favor in this section and pigeon shooting is practiced extensively at Bordeaux, St. Jean-de-Luz, and Biarritz, the grounds set aside for this purpose being considered excellent. An efficient gun moderate in price would in all probability be appreciated by the working classes in general. The cheapest shotgun in this section may be had for $4 and the most expensive for about $80.

ST. ETIENNE.

CHIEF DEMAND IS FOR LOW-PRICED REVOLVERS.

Consul William H. Hunt, of St. Etienne, writes that the ownership of revolvers is common among the people of that district, and that they can be purchased from the manufacturers there as low as $1.15. He adds:

The automatic pistol is highly appreciated, especially because of its flat shape, which makes it a practical weapon to carry. Its use would be more general if it could be sold cheaper to the ultimate consumer. Present selling prices vary from $4.25 to $8, which restricts the sale somewhat. The type of revolver most popular in this region is called the "Velo-Dog," in which is fired a long cartridge of 6 millimeters caliber. This type is manufactured in both France and Spain. Next follows the Browning, and a hammerless revolver made in Belgium, and another model made in Austria.

Most of the revolvers on sale here are imported, chiefly from Belgium, which country, with its facility for production and its cheap

labor, is able to sell revolvers as low as $0.92, freight, customs duties, and packing included. Spain exports many revolvers into France at lower prices than this, but the workmanship leaves much to be desired, and Spanish-made arms are at present considered inferior to the Belgian article.

What would find a market in France, perhaps, is a good revolver that can be sold for $2.30 to $3.50; that is, if one wishes to reach the most interesting class of trade. In order to do this it would be necessary to sell to French merchants at not more than $1.35 to $1.55. The demand for high-grade revolvers is very limited. The type of revolver supplied to the police is a five-shooter of 8 millimeters caliber, which carries the Lebel cartridge.

MARKET FOR SHOTGUNS—LOCAL PRODUCTION.

Hunting with shotguns is popular in France, especially in this region, and is growing in favor every year. Target shooting is much less popular, and outside of the large cities where there are gun clubs there is no market for guns for this purpose. Shotguns can be purchased here for $3.50 to $175. A moderate-priced single-barrel shotgun, even for long-distance shooting, would not find a sale here at whatever price it might be offered. It is estimated that 100,000 shotguns are manufactured annually in this region.

UNITED KINGDOM.

REGULATIONS FOR USE AND SALE OF REVOLVERS.

Consul Albert Halstead, of Birmingham, submits the following report on the sale of revolvers and shotguns in that section of England:

There are rather severe regulations and restrictions upon the sale and use of revolvers, which can be imported into the United Kingdom without restriction, but which must be proved before they can be sold. Revolvers can not be sold to any purchaser not having a gun license, which costs 10s. ($2.43), except upon the issuance by a magistrate of a permit to carry same. Payment for these licenses is rigidly enforced, and court decisions make this requirement applicable even to a revolver bought by a householder for use in his house.

The ownership of revolvers is not common among the people of the United Kingdom. There is no habit of carrying them, for which the regulations as to licenses, the law against concealed weapons, and public opinion are largely responsible. A Birmingham firm makes a revolver the rights to manufacture which have recently been sold to a firm in the United States, and which is the best and practically the only English revolver now made here and the most popular. It is not customary for police officers in Birmingham to carry revolvers, they doing so only on exceptional occasions, and the weapon they carry is the army service revolver manufactured by a Birmingham firm.

TRADE IN SHOTGUNS—BELGIAN COMPETITION.

A gun license costs the same as a license for a pistol, and payment is rigidly enforced. It is not necessary, however, to secure magisterial permission to possess a gun, as for a pistol, but a license is

imperative. Guns must be proved in the same manner as pistols. There is some trap shooting, and target shooting is generally done with rifles. Hunting is general throughout England. It is my opinion that a cheap gun would appeal to people of moderate resources, but there is a large trade in fine sporting guns, the best of which are made in Birmingham. These are of a splendid type and some are very costly.

A moderate-priced gun of good quality is manufactured in Birmingham, and there is a decided prejudice in favor of the British-made gun, the impression prevailing that no other is so good. Some American single-barrel shotguns are sold here, but no double-barrel guns. There is a considerable trade in single-barrel shotguns made in Liege, Belgium. The barrels of most of the American guns sold in the United Kingdom are proved in the rough and then proved definitively when the guns are complete, the barrels being returned to the United States after the provisional proof. Some, however, are proved in a finished condition and must stand the heavier test. American manufacturers should not endeavor to promote trade by correspondence, but send an agent to investigate the market and its requirements. Keen competition must be expected from both British and Belgian manufacturers. [Copy of the rules and regulations and scales applicable to the proof of small arms are on file in the Bureau of Manufactures.]

BRISTOL.

AUTOMATIC REVOLVERS ARE BEST SELLERS.

Consul Homer M. Byington, of Bristol, writes that the use of revolvers is not common among the people of that English consular district. He continues:

The best selling type is the automatic pistol, and the Webley, which retails for $10.34, is the best seller, while the Colt automatic, which retails for $12.16, $19.38, and $20.69, according to size, also stands well on the market. The most popular type of cartridge is the smokeless. The police of Great Britain do not use either revolvers or pistols.

Trap shooting is not extensively practiced in this consular district. There is, however, a large amount of bird shooting enjoyed mostly by the upper classes, who use high-priced guns. A moderate priced single-barrel shotgun will have no chance in this district, as only the best double-barrel hammerless guns are used. [Copy of law regulating sale and use of firearms in the United Kingdom is on file in the Bureau of Manufactures.]

DENMARK.

AMERICAN, BELGIAN, AND GERMAN REVOLVERS ON MARKET.

Consul-General Wallace C. Bond, of Copenhagen, writes that there are no regulations or restrictions on the importation or sale of revolvers in Denmark, but that a permit is necessary to carry a revolver. All kinds of revolvers are used, generally of American, Belgian, or

German make, and prices range from $1.60 to $20. Automatic revolvers are becoming more popular. The American Colt, Smith & Wesson, and Johnson are sold for $6.70 to $20, and the Browning (Belgian), at $13.40. Cartridges are of British and German make. The Copenhagen police use the Browning revolver. Target and trap shooting and hunting are practiced here to some extent, and members of the various rifle clubs would be interested in a highly efficient but moderate priced single-barrel shotgun.

ASIATIC TURKEY.

BAGDAD A GOOD MARKET FOR REVOLVERS AND SPORTING GUNS.

Consul Frederick Simpich advises that there is a steady call in Mesopotamia for firearms, particularly for revolvers which may be retailed in Bagdad at $7 to $12 each. The consul's report follows:

No serious restrictions are imposed by the Turkish customs on the importation of revolvers and sporting guns. Shortly after the advent of the new régime in Turkey two traveling salesmen came to Bagdad with a large stock of arms, and quickly disposed of the whole supply. Besides the desert Arabs, who go well armed, most of the population of Bagdad carry revolvers at night. The Arab takes great pride in the possession of any sort of firearm, and regards his gun as his main asset. The desert people do not consider themselves well dressed unless they wear a firearm of some sort. Such weapons are used not only for offensive and defensive purposes, but also play an important part in marriage processions and festivals.

Persian and Kurdish tribes on the frontier bordering this district draw on Bagdad for their extensive requirements of arms and ammunition. Thousands of dollars' worth of revolvers are sold in Bagdad annually, together with weapons of other design. No wholesale arms business exists here, the trade being all done at retail. With Bagdad as headquarters and agencies in the various important centers in this district a representative of American firearms manufacturers could develop a very profitable trade in weapons and supplies. Since the establishment of the constitution, the ban has been removed from revolvers and sporting guns. The importation of military rifles, such as Winchesters, Mausers, Martinis, Schneiders, etc., together with mortars, cannon, and ammunition, is still officially prohibited. Revolvers with barrels more than 15 centimeters long are also forbidden. These restrictions do not apply to rifles intended for hunting and sporting purposes.

The abundance of game along the Tigris and Euphrates, and the removal of obstructions as to importation, should make Bagdad the center of a thriving trade in shotguns and supplies, as well as sporting rifles, revolvers, etc., and the attention of American manufacturers is urgently called to the advantage of getting a foothold in this field ahead of European competitors. Already German-made weapons, selling at a low price, are making their appearance. French and English revolvers enjoy the best reputation so far. Revolvers of the Mauser type meet with most favor.

ALGERIA.

SMALL-CALIBER REVOLVERS IN DEMAND—HUNTING IS POPULAR.

Consul Albert W. Robert, of Algiers, reports that there is no restriction in Algeria on the sale of revolvers or shotguns to Europeans (a term employed to designate persons of European descent), but the natives, Arab or Kabyle, must have special permission from the government before purchasing firearms of any description. He adds:

The ownership of revolvers is restricted in the towns and villages. In the country the colonists on isolated farms have them to a certain extent, but the use of shotguns is general. The Browning is by far the most popular revolver here, and the small caliber appears most in demand. The retail price is 40 to 100 francs ($7.72 to $19.30). Only cartridges with smokeless powder are used. Police officers receive the regular army revolver sent directly from the war department on application by the mayor of the commune, forwarded through the government general. Hunting with shotguns is largely practiced all over the colony; target and trap shooting very little. Special inquiry as to the possibility of placing single-barrel shotguns shows there would be no market for them here. The customs duty on revolvers imported from the United States is 900 francs ($173.70) per 220 pounds. The rate on revolvers imported from practically all other countries is 600 francs ($115.80) per 220 pounds.

SIAM.

IMPORTATION OF FIREARMS AND AMMUNITION.

The trade in Siam in firearms and accessories is described by Vice-Consul-General Carl C. Hansen, of Bangkok:

In the distant provinces of Siam the old flintlock guns are still in use for hunting and defense against the wild beasts of the jungle. However, the modern rifle is much in demand by those who can afford to buy it. The traveler in remote districts is often importuned to dispose of his firearms, as such are difficult to obtain, the importation of arms, ammunition, and explosives being prohibited except by the previous special permission of the Siamese Government. Travelers on arriving at the port of Bangkok are required to deposit their arms and ammunition with the custom-house authorities before landing, a receipt being given for the same, and everything being restored again on the traveler's departure, or, on special request through the respective consulate, the visitor may obtain possession of his weapons and ammunition for personal use.

Ships on anchoring at Paknam, at the entrance of the river, must also give over to the customs all the guns and ammunition before proceeding farther up the river. The importation of firearms for the fiscal year ended March 31, 1909, amounted to 711 rifles and fowling pieces, valued at $16,036; 325 revolvers, valued at $4,141; and all other arms to the value of $7,350; also 870,850 numbers of ammunition, valued at $15,446, and $10,014 worth of explosives. The United Kingdom and Germany supplied the bulk of the above goods,

the share of the United States amounting to only $102 in ammunition and $240 in firearms.

It is understood that the Siamese Government has an armament factory under construction near Bangkok, but up to the present time specifications for tenders for its equipment have not been issued.

HONDURAS.

MARKET FOR AMERICAN REVOLVERS.

A good demand in Honduras and throughout Central America for medium-priced revolvers is reported by Consul Samuel MacClintock, of Puerto Cortes, who says:

The carrying of weapons is very common here upon all occasions, and the assertion is made that fully three-fourths of the men of Honduras have revolvers of some kind or other. The people who can afford them know and appreciate the quality in such high-grade makes as the Colts, Smith & Wesson, Browning automatic, and others of like character, but the great bulk of the demand is for a gun costing about half what these high-grade weapons sell for. At present this demand is largely filled by cheap European imitations of best American makes. Thus, one of the revolvers most frequently seen here is an outright imitation of the Smith & Wesson. It is made in Spain, and contains the words, along the top of the barrel: "This revolver will shoot Smith & Wesson cartridges." It retails for the equivalent of about $4.

The popular demand is for a .38-caliber revolver, with ivory handle, nickel plate, that can be retailed for about $5.

BRAZIL.

LARGE INCREASE IN IMPORTS—TYPES IN DEMAND.

Vice-Consul-General J. J. Slechta, of Rio de Janeiro, writes that imports of firearms and ammunition into Brazil increased from about $1,500,000 in 1908 to $5,750,000 in 1909, the share of the United States in the trade being $500,000 in 1908 and $800,000 in 1909. He continues:

The various items of firearms and ammunition are not given separately, and it is impossible to show the trade in firearms alone. In shotguns the greatest demand seems to be for guns of small caliber, much hunting being done for small birds and animals. In rifles, high-power guns of both small and large caliber sell well. The rubber gatherers of the Amazon country are good buyers of repeating rifles of standard make, the use of these weapons being so common that a cartridge of standard use passes current as a medium of exchange.

No restriction is placed upon the importation of firearms other than as required by police laws in the various cities; neither is there any restriction upon their sale except under circumstances requiring the prohibition of all sale of such articles. A weapon enjoying special favor is the automatic .30 and .32 caliber. The police department

has adopted a heavy .44-caliber army type of revolver, which is used almost exclusively by the several branches of the police.

SELLING PRICES—HOW TO EXPLOIT MARKET.

Firearms sell at comparatively low prices in Rio de Janeiro and other Brazilian cities, owing to the comparatively low duty and to the fact that many European and American manufacturers are reputed to sell their surplus products in this market at a low margin of profit. Retail prices for all kinds of firearms range from about 35 per cent to 50 per cent higher than in the United States, while prices of ordinary household necessities are 200 per cent to 300 per cent higher.

American manufacturers desiring to establish a business in Brazil should open a branch office in Rio de Janeiro, with other branches in the more important Brazilian cities. With an experienced American representative in charge of such office, any first-class manufacturer would be certain to get much business now going to Europe. In attempts to reach the Brazilian market through regular dealers who import all kinds of arms and ammunition and who have no particular interest in American goods, American manufacturers are at a decided disadvantage. The dealers in most cases favor the European product, but the purchasers know very little as to the various makes and do not care in what country they are manufactured. In some districts, as in the Amazon rubber country, there is a well-marked preference for American Winchesters, but in other parts of Brazil people who use guns simply in hunting have little, if any, preference, and a well-directed effort to place American arms on the market would probably be successful.

VENEZUELA.

UNITED STATES LEADS IN THE REVOLVER TRADE.

Consul Isaac A. Manning, of La Guaira, writes that there is no restriction on the importation and sale of revolvers and shotguns in Venezuela, although there is a police regulation as to carrying concealed weapons. He says:

The ownership of revolvers is common among the classes able to buy them. No type seems more popular than another, although the .38 to .41 caliber pocket revolver is preferred. Police officers are supplied with a short-barrel carbine and rarely carry revolvers.

Trap shooting is practiced but little. The character of the forests and fields and the kind of game do not encourage hunting with shotguns. However, most of the planters of agricultural products, etc., would be interested in an efficient but moderate priced shotgun of the breech-loading type, using prepared shells or reloading shells.

The imports of revolvers into Venezuela during 1908 were valued at $13,661, of which the United States supplied $8,112; and of hunting arms $5,526, of which $4,226 came from Germany and only $379 from the United States. The latter were principally cheap arms for sale to the poorer rural population. During the first six months of 1909 the value of the imports of guns and revolvers was $9,615, of which $7,494 was from the United States.

MARKET OPENINGS.

ENGLAND.

LIVERPOOL AS A MARKET FOR AMERICAN DRY-CLEANING MACHINES.

Consul Horace Lee Washington, in answer to an inquiry concerning Liverpool as a market for the sale of clothes-pressing and steaming machines, reports:

The result of interviews with several tailors and suppliers shows small likelihood of such machines being used in this district, as there are few tailors who manufacture ready-made clothing, and the establishments making to order find it more satisfactory to use hand irons for pressing purposes. Cheap labor is a factor in this, and it would not pay the small manufacturer to invest in a machine which costs $225 in the inland city in the United States where it is manufactured. There is some prospect that the machines might have sale among dry cleaners' establishments, one of which now uses three machines of somewhat similar nature, of American manufacture. These are satisfactory for woolen goods, but do not work so well with cottons, hence the latter are usually ironed by hand.

SPAIN.

POSSIBLE MARKET FOR AMERICAN TOYS.

The following information concerning the trade in toys in Spain is furnished by Consular Agent A. E. Carleton, of Almeria:

Christmas trees are almost unheard of in Spain, and the small folk receive their toys and presents on Twelfth-night instead of on Christmas night; but neither night, so far as giving and receiving remembrances are concerned, has the same significance as in the United States, for instance. Notwithstanding the negative attitude of Spaniards in general toward these holidays, there seems to be a fairly good market here for toys of all descriptions, not, however, of much attractiveness as compared with American toys.

Most of the toys sold in Almeria are of German make—from Nuremberg chiefly. In one of the leading shops 85 per cent were German toys, the balance, with the exception of a very small amount from France, being made up of Spanish toys.

The Spanish toy makers are moving ahead in their work, and are creating a demand for their specialties, which seem to be in the line of children's furniture, well and attractively made. Valencia and Denia lead in the production of these toys. In Barcelona there are important tin toy factories, but this class of toys can not be considered of any educational value—that is, serving the double purpose of amusement and instruction.

Concerning the importation of American toys and games into Spain, attention is called to the fact that utility toys do not seem popular. The reason therefor, however, may be that the people are not conversant with this feature of the trade, so strongly set forth in the United States, where the manufacturers aim to make a class of toys within reach of all, yet always maintaining the essential feature of utility.

Spanish and German toys are not constructed for durability, and scientific principles are not much in evidence. Herein American

manufacturers are ahead of their European competitors. It can not be denied, however, that German toys are sometimes most realistically made, but the essential features of what can be termed usefulness and unbreakableness are apparently lost sight of.

It is therefore reasonable to assume that American toys, because of their two essential qualities—amusing children and teaching them to think and use their hands at the same time—can find sale in the Spanish market, nothwithstanding an increasing Spanish toy manufacture and German competition. [The address of an Almeria merchant who might become a buyer of American toys and games, transmitted by Consular Agent Carleton, is on file in the Bureau of Manufactures.]

KITCHEN WIRE GOODS UNKNOWN IN THE KINGDOM.

Consular Agent Carleton also furnishes a report concerning the dearth of wire goods in Spanish kitchens and the opportunity for American manufacturers to create a trade in these and in other household utensils, from which the following is taken:

The Spanish housewife knows nothing of the hundred and one kitchen utensils in universal use throughout the United States, especially those made of wire. Only the very essentials for the kitchen can be found here, and many of these are unsatisfactory even to the workers who know nothing about up-to-date utensils, and it would appear that if American kitchen goods were brought to their attention in a practical way they would in time become acceptable and popular with Spanish housewives. Among the goods of this class may be mentioned wire broilers, toasters, egg whips, egg lifters, egg boilers, strainers, baskets, forks, sink cleaners, pot cleaners, bath-tub attachments, potato mashers, and garment hangers.

An up-to-date mop is not to be found in any shop in Almeria, notwithstanding that carpets and rugs are not in common use, while owing to the dust and occasional strong winds it is necessary to have the floors washed daily, a task performed by the servants in the old way. Surely a more modern method, if properly presented, would be welcomed by both mistress and maid.

Modern kitchen utensils being unknown here, to create a market therefor samples of the various kinds must be placed upon the market; in fact, the people must be educated to their use.

RUSSIA.

EXPORT, IMPORT, TRADING, AND INDUSTRIAL UNION AT MOSCOW.

Consul-General John H. Snodgrass furnishes the following information concerning the Russian Export, Import, Trading, and Industrial Union, which has been established in Moscow:

The objects of the union are the furtherance of the exports and imports of Russia by the establishment of trading and industrial enterprises and exhibitions of sample goods throughout the Empire, and by such other means as may contribute to the advancement of the prime objects of the organization: Finding markets abroad for Russian products and markets in Russia for foreign products. The union is empowered to acquire property, real and movable, and to defend the same in the courts. The liability of the union is limited to its

capital and property, and its members are not called upon to make any additional payments than their entrance fees and annual subscriptions, which are as follows: Active members, taking direct part in the business of the union and sharing in its profits, $515 entrance fee and $52 annually; passive members, $13 per annum.

The union has started out under favorable auspices in Moscow. It has a large membership and has arranged a number of offices in the central part of the city, where articles of Russian manufacture and growth are on exhibition. The Polytechnic Institute of Moscow is another institution formed on somewhat the plan of the union, being provided with extensive offices and exhibition rooms, where machinery and other products of Russian factories and mills are on view.

The union is desirous of entering into correspondence with American manufacturers and exporters who desire to extend their trade to and in Russia, and it requests that letters and inquiries be sent to its manager through this consulate-general.

RUSSIAN TRADERS.

DESIRE TO TRANSACT BUSINESS WITH AMERICAN MANUFACTURERS DIRECT.

Consul Thomas E. Heenan, of Warsaw, reports as follows concerning the desire of the large Russian houses in his district to deal directly with American manufacturers instead of through foreign commission houses:

The tendency of American manufacturers to settle business transactions here through the intermediary of commission houses, especially those in Hamburg and Bremen, appears to be a mistake in the commercial relations of this district with the United States. This intermediation, it is claimed, in any case, as regards large firms, acts detrimentally in the extension of trade with the United States, for the following reasons:

(1) It raises, without the slightest need, the price of goods, making it still more difficult for American products to compete with those of Germany, which latter, without any competition, are already much cheaper. These agents charge nominally a commission of only five per cent, but some are not satisfied with this commission, and reduce of their own accord the discounts allowed by the manufacturers, and even as known here, sometimes raise the manufacturer's gross prices.

(2) It causes a loss of time, because all correspondence is directed to the commission house instead of direct to the manufacturer.

(3) It makes business intercourse difficult, because in many cases of claims having reference to the quality of the goods, or in the case of a customer wishing to make some suggestion or other, this does not reach the manufacturer's ears. The agent, not knowing the article accurately, very often will not take the trouble to go into the matter properly and leaves local buyers unsatisfied.

(4) Sometimes the agent spoils a buyer's assortment, because he may change his manufacturer at pleasure, and send to the buyer goods which appear to be the same as usual, when, as a matter of fact, they are of a make quite different to those formerly supplied.

It is easily understood that on account of the great distance and great cost in traveling it is difficult for the American manufacturer to send out travelers the same as the German does, but surely several manufacturers might combine and engage a traveler, who would present himself not in the character of an agent acting on his own account, but who would accept orders direct for given firms, on condition that every firm would invoice the goods direct to the buyers.

Some American manufacturers often refuse point blank to enter into direct communication with the buyer. As, however, it is not the

desire of business houses here to negotiate any further through the commission houses of Hamburg and Bremen, they are anxious to meet with American firms who would be willing to transact business with them direct, and who could supply them with articles which they have been receiving through the agency of these commission houses.

SAFES IN FOREIGN COUNTRIES.

GERMANY.

A PROBABLE MARKET FOR AMERICAN SAFES IF PROPERLY EXPLOITED.

In answer to an inquiry, Consul Thomas H. Norton, of Chemnitz, reports that the manufacture of safes throughout the Empire is highly developed. In regard to the class of safes in use, and the outlook for a market for the American product, he says:

German manufactured safes seem to supply the domestic demand fairly well in this part of the country, and safes of foreign make are not much in evidence. The imports of safes into Germany in 1908 amounted to only 47 metric tons, while the exports during the same year amounted to 1,705 tons. Russia and Italy are the best customers for German safes.

Of the imports in 1908, 20 tons were from the United States, against 4.7 tons in 1907, so that there is a demand for the American product, and that demand is growing.

In all the chief cities of Saxony there are safe manufactories. There are three factories in Chemnitz and five dealers in safes. The latter should be addressed directly, for this business community is progressive and always glad to take up anything that promises trade. [These addresses are on file in the Bureau of Manufactures.]

The safes in general use here cost about $75, but there is a large sale for very cheap safes, with wooden foundations, ranging in price from $25 to $50. Fires are so rare that the protection of books and papers from that source is not so important as in the United States, and safes of light construction seem to meet the requirements of the community.

German taste seems to run to high and narrow safes. A safe often seen is, say, 4 feet 9 inches high and 2 feet 9 inches wide; of fairly strong make, with 4 bolts, and weighing three-fourths of a ton, this costs $165. The interior is divided into four compartments by three shelves. Drawers, if desired, cost $3.50 each, and departments with special locks $11 each.

This does not preclude the possibility of securing sales for the more elaborate and highly perfected types of American safes to banks and similar institutions, which use safes of massive construction built into the walls of the premises occupied.

In any case trade can only be worked up by personal efforts, and even then local conditions and taste must be carefully studied.

KOREA.

COMPARATIVELY INEXPENSIVE GOODS ARE DESIRED.

Vice-Consul-General Ozro C. Gould, of Seoul, reporting in regard to the market for steel safes and cabinets in Korea, says that aside

from the requirements of Japanese and Korean business houses, there is little demand for goods of this nature. He adds:

Foreign firms, other than Japanese, are few in number and they are equipped with as extensive vaults and safes as they will require for some time. However, the high risk of fire and the open and unsubstantial construction of buildings in Japanese and Korean communities create an increased need of protection for valuable papers against destruction and theft. The number of Japanese firms in Korea is increasing rapidly, and with this influx of new firms and steady expansion of the old ones it is thought that Japanese safe dealers are doing a good business.

Apparently no American firm is represented here. European firms who have placed small, comparatively inexpensive and none too substantial key-locking safes upon the market have made many sales. Tables showing the sizes, weights, and retail prices of Japanese safes are forwarded [on file in the Bureau of Manufactures]. It is not known whether American products of similar size and style can be placed on the market at these prices. Japanese business men in Korea do not appear to prefer better quality goods if the prices are much higher than for cheaper kinds. Besides, most of the firms are not large and generally they not only do not desire large safes but are unable to pay high prices.

If any American firm feels justified in making a bid for this market it should bear in mind the necessity of efficient local representation and of a generous advertising policy. The safes must be adapted to oriental requirements, the dials of the combinations should be marked in Chinese numerals or characters, and the advertising and the directions for the care and opening of the safes must be in Japanese or Chinese. All patents, trade-marks, designs, etc., should be registered in Japan before attempting sales in Korea or Japan. [Names of firms that might be interested in sale of American safes are on file in the Bureau of Manufactures.]

ALGERIA.

THE AMERICAN PRODUCT SHOULD BE INTRODUCED VIA PARIS.

Consul Albert W. Robert, of Algiers, furnishes the following information concerning safes in Algeria and the best manner of introducing the American product:

It is the opinion of this consulate that an important firm with capital at its disposal and with serious intent to enter the French field would best establish itself first in France, preferably at Paris. This is especially recommended for firms producing some special article protectable under the French patent law, and has been practiced by typewriter and cash register concerns with good results.

The Algerian merchant likes to deal in articles having already won a "metropolitan" reputation. He buys from France just such articles, upon terms which include the items of freight and other charges prepaid, with all credits and discounts known; he is furnished with advertising matter in the language of the country, with quotations in his own moneys, weights, and measures. He has at his disposition actual samples of the articles themselves. Corre-

spondence is easy. And lastly, he is able to replace missing or broken parts in a few days, making use of the admirable French system of "colis postaux."

OPENING FOR WALL SAFES.

There is one product which, if coverable by French patent, would seem to warrant a serious effort toward its introduction into Algeria via France. This is the wall safe, which seems, upon inquiry, to be unknown here. This suggestion holds good for all Latin and Latin-American countries.

The habitations of Algeria are invariably constructed of rough stone, brick, or composition—concrete with broken stone, tied with courses of brick, in the manner of a "header course" in a brick wall, as constructed in the United States.

In an apartment house of five stories the exterior walls are seldom less than 60 centimeters (23.62 inches) in thickness at the base, thinning to 40 centimeters (15.75 inches) at the top. In no building are the exterior walls less than 40 centimeters in thickness, and this is true of most of the interior walls, even when nonbearing—an ideal receptacle for the wall safe.

It is the Latin tradition to guard most carefully all documents bearing upon the "etat civil." Certificates of birth, marriage, and death are all very precious documents. These and other official documents play a part in the daily national life of which Americans, as a rule, have no conception.

Again, the Latin system of cash payments requires a certain amount of money to be always available. How guard these documents and money? The ordinary safe to be nonportable must be heavy, and therefore expensive. The sale of expensive articles of all kinds is restricted in Algeria. The wall safe is nonportable and low in price, and should command a market in all Latin countries.

EXPORT TRADE METHODS.

REASONS FOR GERMANY'S SUCCESS IN FOREIGN MARKETS.

Consul-General Frank Dillingham, of Coburg, in a report on foreign trade competition, quotes an English writer who ascribes the success of German exporters to their commercial agents, who are usually expert linguists, and to their advertising matter, which is printed in the language of the people whose trade they seek. These are two factors to which attention has frequently been directed by American consular representatives, and which, because of their neglect by American exporters, can not be too strongly emphasized. The English writer quoted by the consul-general says:

International trade rivalry is at this time very severe, and the competition with British trade in foreign countries is always on the increase, notwithstanding the warnings and statements made from time to time by British diplomatic and consular representatives abroad, the result being that the United Kingdom not only fails to obtain new foreign markets, but entire countries, which at one time were almost the monopoly of English merchants, are now overrun by agents and travelers of German houses, who owe their success in their commercial enterprise abroad to the traveler who acts as their agent in advance and who continues to be the local recorder of their name and wares. He and his circulars, catalogues, and price lists are polyglot, and, as a rule,

understood by the native of whatever country he happens to visit; whereas the English traveler, or firm at home, will generally exhibit a list of goods printed in more or less elaborate English, which he, or they, can explain only in the same tongue, whatever may be the nativity of persons whose trade is sought.

The German commercial agents not only have the advantage as regards knowledge of foreign languages, but are also well acquainted with the habits and customs of the countries where they travel. They spread themselves over more extent of country than do their English rivals, who sometimes hesitate at the trifling cost of translations into foreign languages, and seek to save expenses and trouble by employing as agents and travelers foreigners who are naturally biased in favor of the trade of their countrymen.

If the writer of the foregoing were an American writer, or especially if he were a member of the American consular service, he could not have better illustrated the reasons why Germany has taken export trade from the United States, as well as from England, because I have, in numerous reports in the past 12 years, pointed out why the United States has lost trade where it should have and would have increased it if American exporters had acted on the suggestions offered by me and by many other American consular representatives.

ADVERTISING IN ENGLISH OF LITTLE OR NO VALUE.

This consulate-general has many callers yearly, but there are not 25 persons out of that entire number who read, write, or understand English. Yet, in spite of repeated assurances of that fact, both in letters to the trade and in my reports, this office continues to receive by nearly every mail from the United States a lot of advertising matter printed in English, which is placed in our files, where it remains unread because our clients can not read it.

If this advertising matter, which consists of pamphlets, catalogues, and circulars, were printed in German, hundreds of our clients would pick it up and read it while waiting for their invoices and other papers to be prepared, and many of them would in all probability correspond with at least some of the firms issuing it, which would lead to business transactions. This office also receives annually numerous letters in which I am informed that the writers are determined to do business in this district, and some of them request me to get some friend to send them an order. I usually reply that if they will send me some advertising matter printed in German I will place it among the trade and do everything in my power to assist them in establishing a business in this district. My suggestions, which have been made in good faith, have generally been ignored, and English-printed matter continues to be received at this office.

What American exporters should do to get a foothold in the yet unexploited parts of Germany, in this part of the Empire, for instance, is to send good, wide-awake, and experienced salesmen, who can interview the trade in its native tongue, offer good goods, reasonable prices, and favorable terms of credit. Under these conditions they would eventually establish a satisfactory trade, which, if carefully nursed, would grow annually.

AMERICAN EXPORT SHIPMENTS.

FULL KNOWLEDGE OF FORWARDING DETAILS NECESSARY.

In stating that many manufacturers have lost profitable export business through making initial shipment wrong, which has resulted in getting no further orders, the Exporters' Review sounds a note of

warning. The foreign customer often assumes that the manufacturer knows all about the shipping routes, consular regulations and charges, etc., and furnishes practically no instructions. The Review adds:

> The first intimation of trouble that the manufacturer gets is a letter from his foreign customer that a heavy fine, often double the rate of duty, has been imposed on the goods or that they have even been confiscated, because the necessary papers have not accompanied the shipment. The consignee also complains that the goods were shipped by a roundabout route, which has delayed delivery, damaged the goods, and cost more than some more direct or practical route. And all this because of the manufacturer not having information at hand as to export routes, regulations, etc.

DRUGGISTS' SUPPLIES.

CANADA.

IN IMPORTS THE UNITED STATES LEADS ALL OTHER COUNTRIES.

The following information concerning the trade of Canada in drugs, chemicals, and dyes, toilet articles, and surgical and dental instruments, is furnished by Consul Frank Deedmeyer, of Charlottetown:

The imports of drugs, chemicals, and dyes into Canada during the fiscal year 1908–9 amounted to $9,133,132, imported from the following countries: United States, $5,837,545; United Kingdom, $2,016,629; Germany, $259,064; France, $254,485; Chile, $175,551; Italy, $156,498; all other countries, $433,360. Most of the goods under this head are on the free list, the dutiable ones being proprietary medicines, the acids, alcoholic preparations, and opium. The following eight classes amounted to $5,862,793 of the total imports: Aniline and coal-tar dyes, $306,380; brimstone and sulphur, $426,569; cream of tartar and crystals, $230,264; extracts of logwood, fustic, oak, etc., $648,142; gums, $2,318,869; opium, crude, $175,903; pharmaceutical preparations, including proprietary medicines, $458,878; sodas of all kinds, $1,297,788.

TOILET ARTICLES.

Canadian women seem to prefer American toilet articles, for of the total imports of Canada falling under the head of this classification ($1,014,449), over one-half, $556,272, comes from the United States, against $187,216 from France and $153,061 from Great Britain. The imports from the United States were as follows: Toilet soaps, $145,809; nonalcoholic perfumes, powders, washes, pomades, $133,986; brushes, $130,547; combs and handles, $69,537; alcoholic perfumes, bay rum, colognes, washes, $36,264; celluloid goods, $35,119; whisks, $5,010.

Many of the well-known American toilet soaps are not on sale in the province of Prince Edward Island. American exporters in these lines will find here a good market for their products.

SURGICAL AND DENTAL INSTRUMENTS.

American surgical and dental instruments and supplies have practically driven all competitors from the Canadian field, for of the total imports of these goods into the Dominion during the fiscal year 1908–9 ($391,456), $310,807 worth came from the United States, the balance coming from Great Britain and Germany. The classes

of these supplies and their value imported from the United States were as follows: Surgical and dental instruments of metal and surgical needles, $130,307; surgical operating tables for use in hospitals, X-ray apparatus and parts thereof, and microscopes, worth not less than $50 each, $25,654; surgical trusses, pessaries, and suspensory bandages, $21,177; artificial teeth, $84,967; antiseptic surgical dressing, plain or medicated, $48,702.

The province of Prince Edward Island has not a proportionate share of the American trade in these lines, especially in instruments and supplies required by physicians and surgeons. British houses have been more active than the American houses in seeking this trade here. As a rule dentists and physicians order direct from the United States and from British branch houses in Montreal and Quebec. All druggists carry a more or less complete line of these articles in this Province.

TRINIDAD.

AMERICAN MANUFACTURERS WELL REPRESENTED IN THE MARKET.

The following information concerning druggists' supplies in Trinidad is furnished by Consul Franklin D. Hale:

It is conservatively estimated that American products have the following percentages of the total trade: Drugs and chemicals, 12; proprietary medicines, 20; patent medicines, 45; rubber goods, 50; while in celluloid goods and dental and surgical instruments American manufacturers hold nearly all the trade.

Patent medicines are in good demand by all classes of the people, and the sale is increasing, importations being made from the United States, Great Britain, Canada, and Germany. Proprietary medicines are imported from the same countries and France. Local pharmacists are now entering the ranks of proprietors of special medicinal preparations, by sending their formulae to England to have the goods put up, claiming that the boxing, bottling, and labeling are better done there than in the United States. The goods of the leading pharmaceutical manufacturers of all countries are found on the shelves of all drug stores in Port of Spain.

The reason given for the small per cent of drugs and chemicals imported from the United States is that the Pharmaceutical Society of Trinidad is affiliated with that of England, and the prescriptions of local physicians are made in accordance with the English standard, and are compounded according to the English Pharmacopœia.

High-priced confectionery, such as is usually carried in first-class drug stores, is imported from the United States, Great Britain, and France; perfumeries also come from these countries, and toilet soaps from the United States, England, and Germany.

American dental and surgical instruments are called very superior, and have but little competition in this market.

Some American houses send representatives here regularly, but a large business is done through New York agents, and the trade is highly satisfactory, although it can be further increased. Nearness to New York is of advantage, as an American order can be filled in two weeks, while to fill an order in England would take four weeks or more, and on this account American orders for smaller amounts are more frequently made than English orders.

COFFEE MILLS AND MEAT CHOPPERS.

BELGIUM.

AN OPENING FOR THE AMERICAN PRODUCTS IN ANTWERP.

In answer to an inquiry, Vice-Consul-General Harry Tuck Sherman, of Antwerp, furnishes the following information concerning the outlook for American coffee mills and meat choppers in Belgium:

Conditions are favorable in the Antwerp district for the introduction of American coffee mills and meat choppers, but a personal representative with sample machines which may be put on trial, and thus give the trade an opportunity to see them at work, is essential to success. The representative should be empowered to give very liberal terms in the initiatory trade to encourage the grocers and butchers to undertake the expense of these devices, and thus advertising in the very best way the value of the machines.

In Belgium coffee is sold in the bean, mostly roasted, although many households buy the raw bean and roast it themselves. It is also sold by the general grocers, although there are certain houses which make a specialty of coffee and tea. The Belgian housekeepers are connoisseurs of coffee, and they claim that coffee ground before it is actually needed loses the greater part of its aroma. If requested, the dealer will grind the coffee by hand power.

There do not seem to be any electric coffee mills or meat choppers in Antwerp. The people use granulated, not pulverized coffee.

Chopped meat is used generally, as elsewhere; it is sold by the butcher and the "charcutier," the latter dealing in pork, sausages, and smoked, pressed, and pickled meats. Meat choppers and cutters are generally run by hand, it being chopped freshly on the customer's call, but large sausage makers use small gas motors.

Belgian storekeepers are not inclined to spend heavily for the sake of show or advertisement, but if an economy can be pointed out they will invest.

GERMANY.

GRINDERS AND CHOPPERS ARE IN GENERAL USE.

In transmitting the following report on coffee mills and meat choppers in Germany, Consul-General Robert P. Skinner, of Hamburg, states that while coffee is roasted and ground in the homes of the consumers in the south of Europe the trade in Germany is conducted substantially as in the United States.

In Germany all dealers in coffee have mills, many of them of American or French manufacture, as the German mills are not considered equal to the imported article. Coarsely ground coffee is not greatly in demand, and a satisfactory mill must be able to grind the beans into a fine powder, not so fine, however, as is the case in Turkey and the Orient where Turkish coffee is prepared. In Oriental countries very small brass grinders of local make are sold in the markets and have the external appearance of a cylinder about as thick as a man's wrist and about 14 inches long. These mills suffice for the preparation of small quantities of coffee, and grind it to a powder which should be as impalpable as possible.

There is a market in Germany for first-class American coffee mills, both large and small, and operated either by hand or by electricity.

To build up a trade manufacturers should visit the market and either get in touch with a first-class sales agent or establish themselves in Hamburg in their own way. There is no likelihood that anything can be done by correspondence with individual coffee dealers.

Meat choppers are in general demand in Germany, where every variety of sausage is produced upon an important scale. The principal demand is among the butchers, who are particularly partial to a certain well-known American make now imported to a large extent. The larger choppers of German manufacture leave much to be desired, and it is only their price which sells them. Many of these machines are operated by electricity, the cost of power of this character varying considerably in different localities. [Addresses of importers of mechanical devices in Hamburg, furnished by Consul-General Skinner, are on file in the Bureau of Manufactures.]

CLOCKS, WATCHES, AND JEWELRY.

CANADA.

IMPORTS FROM UNITED STATES EXCEED THOSE OF ALL OTHER COUNTRIES.

Consul Frank Deedmeyer, of Charlottetown, Prince Edward Island, furnishes the following statistics covering the trade of Canada in foreign clocks, watches, and jewelry:

The imports of jewelry for the fiscal year 1908–9 amounted to $1,000,592, of which $689,659 came from the United States, against $181,914 from the United Kingdom, $63,324 from Germany, and $59,077 from France. Much of the trade consists of plated ware of the cheaper quality. In Prince Edward Island there is an active demand for bracelets, pins, hat pins, brooches, necklaces of inexpensive stones, belt buckles, watch chains, silver and plated tableware, and silver-mounted articles.

The demand for the well-known watch movements made in the United States, especially in gold-filled cases, is growing. The imports of watches, cases, and movements into Canada during the fiscal year 1908–9 amounted to $786,422, of which $538,336 were imported from the United States. The following statement shows the imports from the principal countries during the year:

Description.	Total imports.	Imported from—		
		United States.	United Kingdom.	Switzerland.
Finished watches	$43,517	$16,157	$11,273	$10,559
Cases and parts of watches	73,213	48,287	2,380	16,272
Movements, bars, and sleeves	669,692	473,892	8,721	145,468
Total	786,422	538,336	22,374	172,299

The imports of clocks and parts thereof during 1909 amounted to $315,287. The imports from the several countries were as follows: United States, $250,788; Germany, $37,254; United Kingdom, $15,794; France, $6,479. Just now there is an active demand for medium-priced mantel clocks.

In Prince Edward Island gold-filled watch cases, men's and women's, and highly ornamented mantel and alarm clocks are in greatest demand.

SIAM.

FOREIGN ELECTRO-PLATED WARE IN DEMAND.

Vice-Consul-General Carl C. Hansen, of Bangkok, furnishes the following information concerning the demand for electro-plated ware in Siam:

Betel chewing is quite common in Siam, for which a set of five vessels, and a tray to hold them, are in use. These were formerly manufactured in the country, of beaten gold, silver, and copper, or of earthenware, of various sizes and designs, but this industry has been superseded by electroplated ware from foreign countries, notably from Germany, wherein are reproduced exact imitations of the ancient patterns of these utensils as well as of other hollow ware.

The imports of plated ware into Siam for the fiscal year ended March 31, 1909, amounted to $152,022, of which $73,441 was from Germany and $17,453 from the United Kingdom, the balance coming from various countries. There were no imports from the United States.

There is an increasing demand in Siam for silver-plated hollow ware of all kinds—knives, forks, spoons, and other tableware—and for ornamental purposes, the Siamese gradually adopting methods of living common to Western civilization.

OPTICAL GOODS.

CANADA.

AMERICAN SHARE IN IMPORTS—MARKET IN MARITIME PROVINCE.

Consul Frank Deedmeyer, of Charlottetown, figures that Canada imported in the last fiscal year optical goods, philosophic, photographic, and mathematical instruments worth $706,079. He analyzes this trade:

To this total the United States contributed to the value of $502,962. The growth of this trade is indicated by the fact that in 1900 these imports from all countries amounted to only $268,033. Many of these articles are admitted free of duty when imported for educational institutions.

American exporters will find in the province of Prince Edward Island a good market for eyeglasses, eyeglass lenses and frames, cameras, kodaks, and photographic instruments. These goods are generally sold here by watchmakers and jewelers. [Lists of watchmakers and jewelers in Canada and other countries are on file and may be copied by business interests at the Bureau of Manufactures.]

CHINA.

SCIENTIFIC DEVICES APPEAL TO THE PEOPLE.

In regard to the sale possibilities in China for optical devices, Vice-Consul C. L. L. Williams, of Newchwang, says that ingenious devices appeal to the people of that country. The wealthy Chinese are extremely fond of mechanical instruments and will frequently be seen carrying two or more watches and wearing foreign glasses. He is well known for his fondness for clocks, telescopes, field glasses, in fact almost any scientific instrument.

SOAPS AND GREASES.

SIAM.

NATIVES LIKE FOREIGN SOAP ROSE SCENTED AND IN COLORS.

In stating that there has been a steady increase in the Siamese demand for soap of foreign manufacture for the last five years, Vice-Consul-General Carl C. Hansen, of Bangkok, quotes the statistics:

The total value of the import of soap of all kinds for the Siamese year ended March 31, 1905, was $76,016, and for last year $82,744. Several attempts to manufacture soap in Siam have failed. The Siamese prefer rose-scented soap both for toilet and washing purposes, and the color of choice in pink and yellow. Pretty cartons and wrappings add to the sales. United States' share in this trade for last year was $437, and for the preceding year only $77. Soap is entered at the customs by value only, and no distinction is made as to the kind of soap imported. The customs tariff is 3 per cent ad valorem.

The total value of all kinds of soap imported into Siam from the leading countries for the year ended March 31, 1909, was as follows: United States, $437; United Kingdom, $51,899; Germany, $9,884; Italy, $2,909; France, $3,371; Belgium, $483; Japan, $92; Singapore, $6,631; Hongkong, $4,625; all other countries, $2,413; total, $82,744.

ENGLAND.

HUDDERSFIELD A GOOD MARKET FOR SOAPS AND FATS.

Consul Frederick I. Bright, of Huddersfield, calls attention to the West Riding of England as a market for soaps and oils:

Very large quantities of hard and soft soaps are daily consumed in connection with wool manufacture. The object is to remove oil applied in carding and spinning and other substances and impurities incidentally acquired in the various manufacturing processes. Hard soaps are generally employed for piece scouring. The following classes of textile soaps are offered for sale: American soaps, oxy-kali white curd, silk white curd, manufacturers' white curd, curd mottled, brown mottled, pale, palm, foreign green olive, scouring in casks. Soft soaps, in casks: Gallipoli, olive, crown, and oleine. American laundry, toilet, and household soaps sell well in this district.

There is a large market for lubricating oils and greases. Wheel, rope, belt, and motor greases, and wool-lubricating, gas-engine, and motor oils are greatly in demand. Olive, or Gallipoli, oil is extensively used as a wool lubricant in the manufacture of high-class cloth. The pure oil is highly recommended for combing purposes, but it is understood that it is often blended with cotton-seed oil to make some of the cheaper grades of olive-oil lubricants, which sell at prices lower than the pure olive oil can be obtained at wholesale. These oils sell at retail in 2 to 10 ton lots. Cotton-seed oil is greatly in demand. It is used in cooking fish and other meats, in preparing potato chips, in lard and butter substitutes, as a cheap medium for adulterating purposes, but principally in soap making.

AMERICAN CONSULAR WORK.

ASIATIC TURKEY.

PRACTICAL RESULTS ARE ATTAINED IN THE CITY OF SMYRNA.

Consul-General Ernest L. Harris writes from Smyrna that Turkey, and especially Asia Minor, is a country where little manufacturing is done, therefore every article intended for consumption is practically imported from abroad. He adds:

During the past three years this consulate-general has been carrying on a systematic campaign for extending American trade. A thorough study was made of the articles most suitable for introduction and accounts have been published in regard to them in the Daily Consular and Trade Reports. An immediate result of these published reports was the establishment of a branch office in Smyrna of a large commission firm in New York. This enterprise has proved a success, as during 1909 nearly 100 knockdown office desks were sold in this city and the islands of the Archipelago. This firm is doing a good business in lubricating oil, household furniture, typewriters, office supplies, and boots and shoes. As a novelty several hundred pairs of roller skates were sold in the first two months of 1910.

Another American firm was induced to open up a boot and shoe store in this city, with the result that over $20,000 worth of these articles were sold during 1909.

SERVIA.

CATALOGUE DISTRIBUTION, WITH TRANSLATIONS BY CONSULATE.

Consul Robert S. S. Bergh, of Belgrade, describes the practical method he has adopted for making use of catalogues from the United States, printed in English, for extending trade in Servia:

The following announcement is pasted in the American catalogues presented to business men here:

AMERICAN CONSULAR SERVICE,
MACKENZIE STREET 19,
Belgrade, ———, *191—*.

The American consulate has the pleasure to send you herewith catalogue of ———, ———.

The consulate is at your disposal for further information and translations. Office hours, 10–1.

As most catalogues received are printed in English they are of little use for business men, few of whom understand the language. The plan of offering the assistance of the consulate in translation and other information has brought a good result. The consulate is frequently visited by those who have received catalogues, asking for information relative to the goods advertised, most of the business men desiring to come in direct communication with the manufacturer, thereby obtaining the goods cheaper and saving the agent's commission. This method of distributing catalogues is suggested in countries where English is not understood as an effective means to make the importers acquainted with American goods and the manufacturers and save the catalogues from the waste basket.

Lately a considerable amount of new American manufactured articles have been imported, and the interest in American goods seem to be on the increase.

AMERICAN PREFERENTIAL IN BRAZIL.

RESULTS OF CONCESSION LAST YEAR—PROSPECTS FOR NEW ITEMS.

Writing from Rio de Janeiro, Vice-Consul-General J. J. Slechta says that there was a decrease in the amount of imports from the United States into Brazil in 1909 of seven out of eleven of the articles enjoying a preferential of 20 per cent in the payment of import duties. His details follow:

There was an increase in the amount of imports of flour, pianos, manufactures of rubber, and of typewriters. In typewriters only was the increase in the value of imports from the United States greater than the increase in value from all countries. The increase in the value and quantity of flour imports offers the most encouraging phase of the trade in preferential favored goods. The increase of flour imports was due almost altogether to increased purchases in Para and Manaos, where only American flour is used to a large extent in any case. The increase in imports of typewriters was due to increased demand for the article and to greater activity on the part of American sales agents in Brazil. The insignificant increase in imports of pianos may have been due to the preferential, but the total is so small as to be without special importance.

The total imports of nine of the eleven preferential articles from all countries and from the United States (windmills and refrigerators not being specified in the returns), in 1908 and 1909, were as follows:

Articles.	1908.		1909.	
	All countries.	United States.	All countries.	United States.
Paints	$405,930	$87,309	$407,160	$67,107
Wheat flour	8,893,260	1,910,072	9,269,817	2,196,374
Pianos	345,959	25,246	359,460	32,468
Condensed milk	740,615	39,186	952,857	22,975
Scales	84,371	36,951	75,812	27,133
Watches	221,933	42,061	241,515	22,704
Clocks	138,957	84,960	114,550	60,396
Manufactures of rubber	426,364	46,184	532,931	77,753
Typewriters	128,472	115,624	195,102	187,208
Total	1,385,861	2,387,593	12,149,204	2,694,118

Of the four additional items recently added to the list of preferential-favored goods—that is, cement, preserved fruits, corsets, school and office furniture—only the first two are listed separately in the statistical returns. In 1909 the total imports of cement were valued at $2,532,172 and the imports from the United States at $4,832. The total imports of dried fruits amounted to $332,164 and the imports from the United States to $7,097. In both of these articles there would seem to be opportunity for increased American trade in Brazil with the advantage of the 20 per cent preferential. A local dealer in cement recently stated that this preferential would, in the case of cement, just cover the difference in price previously existing in favor of European cement by reason of lower freight rates on cement from Europe than from the United States and of a slightly lower price quotation for the European cement than for American cement of an equal or slightly better grade.

AUSTRALIAN SPONGE TRADE.

NEARLY THE WHOLE IMPORT CREDITED TO ENGLAND.

In answer to an inquiry, Consul John F. Jewell, of Melbourne, furnishes the following information concerning the sponge trade of Australia:

Sponges were imported into Australia in 1908 to the value of $45,521, all of which, except about $500 worth, was credited to England in the customs, although England produces no sponges. The countries of origin, according to the customs returns, were Turkey, Greece, West Indies, and Cyprus.

The statement of the inquirer that most of the sponges consumed in Australia are from the West Indies and Florida, via New York, has no foundation in fact, for although West India sponges (including the Bahamas) were imported into Australia in 1908 they were all imported from and credited to England, and while $312 worth of sponges are credited to the United States as the country of origin, only $112 worth were imported direct from the United States.

The Australians do not seem to care whence sponges come so long as they are suitable in price and quality. The imports of sponges are free of duty, and are confined almost to wholesale druggists, who sell the best qualities to the retail druggists and the lower quality to the hardware trade. If American sponges can compete with those of the Mediterranean and West Indies there is no reason why they can not find a market in Australia.

[A list of the wholesale druggists and hardware men in Melbourne is on file in the Bureau of Manufactures.]

SHIPS AND SHIPPING.

OCEAN TRANSPORTATION.

MEXICO.

TAMPICO-NEW YORK FREIGHT AND PASSENGER TRAFFIC.

Consul Clarence A. Miller furnishes the following information concerning the new shipping accommodations between Tampico and New York:

In January the New York and Cuba Steamship Company (Ward Line) made arrangements for handling both freight and passenger traffic between Tampico and New York. Originally it was intended to use only four ships of small tonnage for this service, but the results obtained even in this short time have been so favorable that they have been replaced by four larger and better vessels, viz, the Vigilancia, 4,115 tons; Seguranca, 4,115 tons, both of which are American ships; the Matanzas, 3,094 tons, and the Bayamo, 3,206 tons, a total tonnage of 14,530. A regular eight-day service is maintained between Tampico and New York, a ship sailing from Tampico every Friday. The Vigilancia and the Seguranca also carry passengers, who may leave Tampico every second Friday.

Through the efforts of the Ward Line the National Railways of Mexico have reestablished regular passenger service between Mexico City and Tampico, and tickets are sold from Mexico City to New York via the Ward Line for $64.50 gold, one way, or $120 gold for the round trip. The line has also arranged with the National Railways to route all freight of northern Mexico or all freight north of Mexico City via Tampico. The agents of the line are doing everything possible to encourage the shipments of freight via Tampico, and have made arrangements for the benefit of those engaged in the agricultural development of this section to ship, free of charge, two boxes of vegetables as samples from each shipper to New York. Quite a number have taken advantage of this offer. A rate on onions has been fixed similar to the rate by rail from Laredo, Tex., the center of the onion-producing section of Texas, to New York. Already four cars of onions have been shipped in this way, and arrangements have been made for shipping thirty or forty cars more, of 500 bushels each. This is quite an advantage for the onion shippers of this district, as the onions are ready for the market about March 15, or nearly a full month before those of Laredo. The Ward Line also offers its aid in marketing such products, and, as a consequence, the farmers of this section are stimulated to greater endeavor because the New York market is thus opened to them.

The Wolvin Line has also chartered another large steamship for the Mexican Gulf service, the Estonia, which will be put into service shortly. This service is between the Mexican Gulf ports of Mexico

and the ports of Texas and Louisiana, with three large steamers, viz, City of Mexico, City of Tampico, and Nordheim.

AGRICULTURAL DEVELOPMENT.

The facilities now being offered by the Ward Line for the quick transportation of products to New York will result in giving much impetus to agriculture in this part of Mexico.

A great deal of attention is being devoted to onion raising near Cruz and Esteros, as much as 200 bushels per acre being produced, much of which has already been contracted for, to be delivered in Tampico, at about $1.25 gold per bushel. One farmer at Forlon has made arrangements to send 40 cars of onions to New York via Tampico and the Ward Line.

Tomato growing has been very successful this year, many shipments having already been made by express and water. A conservative average estimate shows that tomato farmers have realized $65 per acre; many of them have realized as much as $85 to $135 gold per acre. The Stone variety is that generally planted here, and it seems to stand the shipment well.

Considerable quantities of string beans and eggplant have been shipped by express to northern markets.

Attention is now being given to citrus fruit cultivation. One planter near Tuxpam is preparing to plant 1,000 acres in oranges and grape fruit. There are also a number of successful orange growers in the vicinity of Tampico, and it is expected that, in the near future, considerable quantities of this fruit will be shipped to the United States.

Wonderful success has attended the cultivation of the sugar cane, one company having produced last year 1,270,000 pounds of sugar and 25,000 gallons of alcohol.

WEST INDIES.

PROSPECTIVE CONSOLIDATION OF SUBSIDIES TO SHIPPING LINES.

In view of the desire by the Imperial Government to bring about preferential trade relations between Canada and the British West Indies through improved steamship service, Consul Franklin D. Hale, of Trinidad, notes that annual subsidies are now paid to certain steamship companies by the imperial and colonial governments as follows:

Canada grants to the Pickford and Black Line plying between St. John, Halifax, and the West Indies an annual subsidy of $65,610 and the Imperial Government makes the same grant; the Imperial Government and Jamaica each grant annually $97,200 to the Direct West India Line. The Imperial Government and Barbados, and the Leeward Islands and British Guiana each grant annually $60,750 to the Royal Mail Steam Packet Company, while Trinidad, Grenada, St. Lucia, and Dominica grant $44,950 to the same company; a total of $492,070 granted annually by the imperial and colonial governments to certain steamship lines trading in the West Indies.

In addition, poundage has to be paid for mails carried between the United Kingdom and the West Indies, as well as payment for the

conveyance of ship letter mails. Even with these large subsidies, the various lines do not seem to be engaged in a sufficiently profitable business to give their service the expansion desired by the trading interests of the various colonies.

It is being argued that with such a preferential trade arrangement as is proposed all these various subsidies could be united into one large grant to one line, which could then afford to so enlarge and improve its steamship line as to give a service equal to the demands of a growing trade, and satisfactory to the demands of the trade interests.

TRINIDAD.

BUNKERING AND DRY DOCK ADVANTAGES FOR STEAMSHIPS.

In calling attention to Trinidad as a popular coaling station, Consul Hale further says that the bunkering business, especially with steamers trading between North and South America, is increasing at a rate which shows the excellent facilities available at Port of Spain. No port dues are levied on steamers calling for orders, bunkers, and stores, which are all obtainable at low prices, while large stocks of Welsh and Pocahontas (Va.) coals are always procurable by day or night, being kept under cover in hulks. The British colonial government proposes soon to take over the Trinidad dry dock. It now has a capacity of 5,000 tons, which can be increased to 7,500 tons by changes which the government proposes to make. The cost to the government, including the proposed repairs and changes, will be about $350,000.

SALVADOR.

STEAMSHIP LINE TO MEXICO CHANGED TO TRIMONTHLY.

Owing to the decline in freight shipments, now that the coffee season is over, Vice-Consul-General Harold D. Clum, of San Salvador, advises that the Salvador Railway Company announces the change of its steamer service between Acajutla and Salina Cruz, Mexico, to trimonthly instead of weekly. This was inaugurated on April 10 and a regular service is promised.

ENGLAND.

NEW LINE FROM BRISTOL TO HANDLE IMMIGRANT TRAFFIC.

Consul Homer M. Byington, of Bristol, writes that the Canadian Northern Railway Company has decided to operate from that port its new steamer service between England and Canada. He adds:

The company has purchased two steamers of about 10,000 tons each, which at one time plied between Alexandria and Naples and Marseilles, and which it is claimed will develop a speed of 21 knots and accommodate 300 first-class, 200 second-class, and 900 third-class passengers. A ten-day service will be inaugurated in May between Avonmouth and Quebec and Montreal.

The selection of Bristol is due to the opening, about eighteen months ago, of the enormous Royal Edward Dock at Avonmouth, and the completion of the direct service of the Great Western Rail-

way between the dock and London, enabling passengers to make the trip in one hour and forty-five minutes.

The Canadian Northern Railway Company expects to secure the transportation of the bulk of emigrants going from the south and southwest of England, and will endeavor to see that they proceed to the districts in which the company is interested, where its agents will aid them in settling on land with a minimum of delay and trouble. Large offices are to be opened in Bristol and an emigration propaganda started, one feature of which, it is stated, will be the exhibition of moving pictures in Bristol and throughout the southwest of England.

Through the development of the port it is hoped that Bristol may become a great distributing center for the west and southwest of England and every effort is being made to persuade as many lines as possible to adopt Bristol as their home port.

THE NETHERLANDS.

NEW PHILADELPHIA LINE FROM ROTTERDAM.

A new service of freight steamers to ply regularly between Rotterdam and Philadelphia via London has just been announced. Consul-General S. Listoe sends the particulars:

Four British steamers have been placed on the schedule to maintain a regular two-weekly service as the Philadelphia Trans-Atlantic line. These ships, operated by the Norfolk and North American Steam Shipping Company (Limited), are the North Point, Eagle Point, East Point, and Crown Point, each of about 3,300 tons net.

The service from Rotterdam to Philadelphia is already good, the Holland-America line and the Cosmopolitan line having regular sailings. With the entry of another fleet of modern freighters into this business Philadelphia will enjoy exceptional freight facilities with this part of the European continent. The new line will, of course, be obliged to enter into competition with a strong combination of pool lines. However, experienced shipping men are managing the new service.

AFRICA.

DIRECT COMMUNICATION BETWEEN NEW YORK AND WEST COAST.

Consul Solomon Berliner, of Teneriffe, calls attention to the announcement of the Woermann Line that it is about to inaugurate a new steamship route between New York and the West Coast of Africa, the plans being as follows:

The first steamer—the Otavi—will leave New York on July 25, 1910, with a monthly sailing thereafter, touching at Las Palmas and Teneriffe in Canary Islands, Secondi, Accra, Lagos, Calabar, Duala (Camaroon), and at intermediate ports, providing freights are offered. On the return voyage mineral ores will be taken from German Southwest Africa to the United States, the vessels coaling at Las Palmas. I am informed by the agents here that they will not accept freight on return voyages to the United States. A few passengers to these islands and other ports on the West Coast of Africa will be accepted, some steamers having accommodation for about ten.

The freight rates per ton of 40 cubic feet, or 2,240 pounds, follow:

	Las Palmas and Teneriffe.	Dakar to Duala.	Lagos, inside bar.	Malimba to Mossamedes.	German Southwest Africa.
Lumber	$3.65	$5.47	$6.07	$7.30	$5.47
Packing materials—straw, paper, etc.	3.65	6.67	7.90	9.17	7.90
Cement, coal (in sacks)	3.65	6.07	7.30	7.90	6.07
Lumber (dressed), iron, soap, china	3.65	7.90	8.51	10.33	8.51
Hardware, paints, lamps, glassware, flour, machines, spirits	4.13	8.51	10.94	10.94	9.17
Cottons, woolens, perfumery, beer, cloth, etc	5.47	12.15	13.88	13.38	10.94
Benzine	12.16	24.32	25.53	25.53	24.32

Packages not exceeding 500 pounds, with bill of lading, will be charged $2.43.

The lowest freight rate from New York to the Canary Islands via Liverpool is $5.11 per ton, and the freight transit requires 30 to 40 days. The new line will take only 12 to 14 days. This great saving of time and freight cost will also benefit both the American shipper and consignees in West African ports. Furthermore, the transshipment of goods at Liverpool caused goods for the Canaries and West Africa to arrive in poor condition.

As the direct steamers are guaranteed freights from the rich Otavi copper and lead mines the agents say if the new line receives enough freight, a fortnightly service may be established. The New York agency is the Hamburg-American Line.

CANARY ISLANDS.

INCREASED RATES ON FRUITS AND VEGETABLES TO LIVERPOOL.

Another report from Consul Berliner, at Teneriffe, says that the different steamship companies trading between Liverpool and the Canary Islands have combined and raised the freights on fruits and vegetables shipped to Liverpool from these islands. Tomatoes and potatoes have been raised from 10s. ($2.43) to 12s. 6d. ($3.04) per ton, and bananas from 9d. (18 cents) to 1s. (24 cents) per crate. The same prices are charged by the steamers going to London and Plymouth, but it is expected that they will also increase their freight rates.

SIAM.

NEW LINE FROM BANGKOK TO JAVA.

Consul-General G. Cornell Tarler forwards the following Bangkok Times' announcement of a new steamship line to Java:

General interest will be felt in the announcement that the well-known Royal Packet Company (Koninklijke Paketvaart Maatschappij) proposes to run a regular service between Bangkok and Java. Diethelm & Co. (Limited) have been appointed the Bangkok agents. The details have not been settled yet, but it is thought probable that the service will be fortnightly.

Many residents here find it advisable to take a holiday in Java, and with a direct service by such excellent passenger boats as those of the Royal Packet Company, the number would be very much increased. In view of the King's appreciation of the attractions of a holiday in Java, this applies to Siamese as well as to Europeans. Moreover, the company has a network of steamship lines among the hundreds of islands of the Malay Archipelago, so that a holiday trip need not be confined to Java. The company has a Java-Australia line

and direct connections with all parts of the world, so that passengers can book in Bangkok to any port.

The new line will not compete directly with any existing line, but should be able to secure the cargo which at present has to be transshipped at Singapore.

CHINO-SIAM LINE ACTIVITY.

Consul-General Tarler also reports the announcement of the chartering of the German steamship Landrath Scheif by the Chino-Siam Steam Navigation Company for their Bangkok shipping business. This increases their fleet to 10, and although freight rates were increased in March, it would seem that heavy shipping is expected.

AUSTRALIA.

NEW MAIL LINE IN OPERATION.

Vice-Consul-General Henry D. Baker advises that the first fortnightly steamer under the Commonwealth of Australia mail contract arrived on March 17 at Sydney. The Orient line receives a subsidy of $31,800 per voyage, or $826,800 per annum. This works out about $2.60 per mile, the steamers, however, paying the Suez Canal tolls of $1.50 per net ton for laden vessels and $1 for ships in ballast.

DOCK CHARGES IN RIO DE JANEIRO.

FREE PORT PRIVILEGES ARE TO BE GRANTED TO SHIPPING.

The report of the commission appointed by the President of Brazil to study port charges for the new docks at Rio de Janeiro, the finished portion of which is shortly to be leased by the Government, has been accepted by the Government, and is reviewed by Vice-Consul-General J. J. Slechta:

The recommendations of the commission will be made the basis of the specifications upon which bids for the lease of the docks will be made. These recommendations constitute a very great concession on the part of the Government to the wishes of commercial interests with reference to the charges to be made for the service of the quays. They embody all of the more important changes which were petitioned for, the more important features being summarized as follows:

(*a*) Reduction of proposed charges to an extent whereby the income produced shall be just sufficient to supplement the income from the 2 per cent gold port duties on imports to constitute a sufficient fund for the payment of indebtedness incurred in the construction of the docks, and in their maintenance and operation, such charges in no case to exceed the charges now made for the landing or discharging and warehousing of merchandise.

(*b*) Fitting the quays with the most modern equipment for handling all kinds of merchandise and commodities is to be carried out in such a manner that the cost of loading and unloading merchandise may be reduced to the lowest possible point and that the cost of warehousing may be likewise reduced.

(*c*) Greater facility shall be provided for importation of coal and exportation of fruits, coffee, timber, animals, minerals, cereals, and dairy products.

(*d*) Provisions shall be made for the warehousing of goods in transit which may be placed in a bonded warehouse without the payment of duties on same.

FINANCIAL MEASURES—NEW LOAN.

These provisions upon which contract for the lease of the docks is to be made were placed in the budget, passed by the Congress on December 28, 1909, and, using them as the bases of its recommendation, the commission proceeds to the consideration of the questions arising

as to how these provisions are to be carried out. The capitalization of the docks, upon which an interest charge and amortization fund must be paid, was thus determined: Foreign loan of 1903, amounting to $41,310,000, upon which an interest rate of 5 per cent per annum and amortization of 1.5 per cent must be paid annually. The internal indebtedness incurred in furtherance of dock construction amounts to $5,247,090. In addition to the indebtedness thus far incurred the commission recommends the floating of a further loan of £3,000,000 ($14,599,000) for further equipment to handle coal, minerals, and other commodities requiring special dock equipment for the sake of expediency. The total interest and amortization charges to be met annually, on the basis of the indicated amount of capitalization, was placed at $3,994,800. Of this the 2 per cent gold ad valorem import duties are expected to produce annually $2,578,100, leaving a balance of $1,416,700 from dock charges. This balance of interest and amortization charges which is to be met by a portion of the income from the operation of the quays is the only element in the charges to be met by proceeds collected for dock services upon which the commission could place any estimate, as the last budget provides that merchandise may be discharged in any part of the harbor, without discrimination of charges, it being impossible, therefore, to determine the gross amount of tonnage likely to be handled at the docks. The commission was of the opinion, however, that the utility of the docks would be so unquestionably greater and more efficient that in a short time most, if not all, of the loading and discharging of merchandise in the harbor would be done by the quays.

The annual tonnage of the port is estimated at 2,200,000, of which the commission believes at least 1,500,000 tons must from the beginning be handled over the quays. The charges which the commission proposes and which have been approved by the Government are calculated to produce a revenue from the handling and storage of this tonnage fully sufficient to cover the item of $1,416,700 for interest and amortization charges and all costs attendant upon the operation and maintenance of the quays. The commission believes that it is quite possible that there may be a surplus over and above these expenditures sufficient to undertake extensions and special improvements not now provided for.

AMERICAN EQUIPMENT FOR COAL AND ORE HANDLING.

The commission recommends that one of the big piers planned for in the extension to be made to the docks now being built shall be constructed at once and fitted out with special ore and coal handling machinery. This machinery, it is specified, shall be furnished by the American company, Mead-Morrison, of New York, and shall be installed as a special ore and coal dock capable of handling at least 300 tons per hour. This recommendation was made on the strength of a report made by a Brazilian engineer who last winter spent several months in the United States in investigating the best systems in use for the purpose required.

This engineer is to return from the United States shortly and will bring with him complete specifications for the system of ore and coal docks to be constructed on the new quays. In addition to this equipment, it is proposed to lay a complete system of tracks of both meter and standard gage connecting all parts of the quays with the freight

yards of the Central of Brazil and the Leopoldina railroads and with warehouses set back from the regular warehouses on the water front.

RATES TO BE CHARGED.

The most important recommendation made modifying charges as originally proposed was that no charge whatever should be made for wharfage for either foreign or national vessels, except for the long-delayed stay of any vessel. The maximum time for which vessels may have free wharfage will be determined in each case according to a set of regulations to be drawn up, and will depend upon the amount and nature of cargo to be loaded or discharged, as well as upon the equipment of the vessel. When this maximum is exceeded, a charge of 700 reis (21 cents) per meter occupied by the vessel per day shall be charged. Upon all imports from abroad a charge of 1 real per kilo (about 30 cents per metric ton) shall be made to provide a fund for the conservation of the port, the charge not applying to products of domestic origin, to coal imports, or to merchandise in transit.

The charge for loading or discharging merchandise over the quays shall be 1.5 reis per kilo, or about 45 cents per metric ton, for imports from abroad. Domestic merchandise shall pay 1 real per kilo, or about 30 cents per metric ton. There shall be a further charge for handling merchandise taken from the quays to the warehouses or to other points at which it is placed at the disposition of the receiver, or taken to the quays from point of delivery by the shipper. This charge is to be determined according to the weight of the volume and the distance it is to be moved.

Foreign merchandise taken into the quay warehouses and deposited to await custom-house inspection is to pay 5 reis (1.5 cents) per volume up to 500 kilos in weight and 10 reis (3 cents) for volumes of greater weight. Merchandise dispatched from on board ship directly to the point of delivery for the receiver will pay as follows: Volumes up to 500 kilos, per kilo 3 reis; up to 1,500 kilos, 5 reis; up to 3,000 kilos, 8 reis; 5,000 kilos, 10 reis; 20,000 kilos, 15 reis; 50,000 kilos, 20 reis; and 100,000 kilos, 30 reis (100 reis is equal to about 30 cents). Foreign coal, exports to foreign countries, and merchandise in the coastwise traffic will pay 1.5 reis per kilo, or about 45 cents per metric ton. Manganese and iron ore and monazite sand will pay 1 real per kilo, or 30 cents per metric ton. Salt, sugar, and coal of domestic origin will pay 15 cents per metric ton. No change was made in the existing charges for warehousing and storage.

APPLICATION OF THE RATES—CHANCE FOR AMERICAN LOAN.

On the basis of the several charges to be collected on merchandise loaded or discharged over the quays, the total amount which will be collected for the services of the dock system is illustrated by the following items (charge per ton): Foreign coal, $0.90; foreign merchandise not taken through customs, $1.65; same, taken through customs, $2.25; merchandise shipped in coast traffic, $0.75; exports abroad, $0.75; manganese, iron ore, and monazite sand, $0.60; salt, sugar, and coal of national origin, $0.45.

These rates are much below those now actually charged on merchandise loaded or discharged in this port, considering all items of cost entering into the total expense of handling commodities in lighters, stevedore charges to or from lighters, warehouse and other charges in

customs and very high cost of cartage, owing to the present difficult means of approaching the customs warehouses.

The acceptance of the commission's report by the Government concerns the United States not only in the contract which goes to an American firm for the construction of large coal and ore docks, but in the proposed issue of a new loan. The additional obligation of $15,000,000 to be undertaken in connection with the special equipment to be added to the quays will of course be guaranteed in the same way that the first loan of £8,500,000 is now guaranteed; that is, by the income from the 2 per cent gold import duty. To banking interests whose activities may be extended to South America this should prove an attractive investment.

AMERICAN BOTTOMS DISPLACED.

SHIPPING TRADE WITH NOVA SCOTIA NOW HANDLED BY FOREIGN VESSELS.

Consular Assistant Ross J. Hazeltine, of Halifax, forwards a report showing that while the volume of trade between that Nova Scotian port and the United States has increased from $2,000,000 to $3,500,000 in the last fifty years, American vessels, which formerly carried practically all the trade, have been supplanted in the last thirty years by Canadian vessels manned by Canadian crews.

In fifty years the declared exports from Halifax to the United States have increased 300 per cent and the imports therefrom have more than doubled. Prior to 1878 practically all this trade was carried in American bottoms, but that year was the high-water mark, and the decline since then has been remarkable. In 1878, 107 American vessels (93 steam and 14 sailing), aggregating 124,251 tons, entered the port of Halifax; in 1908 only 25 American vessels (9 steam and 16 sailing), aggregating 14,614 tons, entered the port.

In 1868 the value of the inward and outward cargoes from Halifax carried by American vessels was $2,346,830, which represented practically all of the ocean-going trade. In 1909 American vessels carried only $179,645 worth of commerce aggregating $3,500,000. American vessels now carry less than one-thirteenth of the value of the cargoes of forty years ago, while the commerce has increased considerably over 60 per cent since that time; or, in other words, American participation in the carrying trade has decreased from practically 100 per cent in 1868 to less than 2 per cent in 1909.

There is also a vast difference in the nature of the cargoes carried in American vessels. In 1878 cargoes from the United States consisted of general merchandise, manufactures, and foodstuffs; in 1908 inward cargo carried in American bottoms was valued at $185,649, of which $140,000 was petroleum transported in the company's own barges that returned to the United States in ballast. In fact, the only American vessels now engaged in commerce between this port and the United States are oil and coal vessels, fishing schooners owned by American firms, and lumber schooners chartered by American mills having extensive interests in lumber lands of the maritime provinces.

The loss to American shipping interests on account of this decline has been enormous. During the past twenty-five or thirty years cargoes valued at over $60,000,000 have been carried between Halifax

and the United States by Canadian vessels. The time in transit is one to one and one-half days, and the profits, which have proved an excellent return on the investment, offset to a large extent the balance of trade in favor of the United States.

CANADIAN STEAMSHIP SUBSIDIES.

ITINERARIES AND AMOUNTS PAID DURING THE PAST YEAR.

Consul Frederick M. Ryder, of Rimouski, furnishes the following statistics covering the payment of subsidies by the Dominion government:

The amount of mail subsidies and steamship subventions paid by the Canadian government during the fiscal year 1908–9 aggregated $1,684,683. The following statement shows the subsidies paid to the steamship lines in excess of $10,000 plying between Canadian ports and the several countries: United Kingdom, $565,000; Australia, $173,567; New Zealand, $46,720; South Africa, $146,000; France, $130,555; Mexico, $91,667; China and Japan, $121,302; South America, $65,700.

Steamships plying between the following ports received the amounts of subsidies given: Montreal–Manchester, $35,000; St. John–Halifax–London, $40,000; Halifax–St. Johns, Newfoundland–Liverpool, $20,000; St. John–Glasgow, $12,000; Halifax–Jamaica, $13,000; Victoria–Vancouver–Skagway, $12,500.

The subsidies for 1910 will doubtless show a considerable increase over those of 1909. The government has already made arrangements with additional steamship lines in anticipation of an increased trade with New Zealand and France; with the former for the purpose of providing transportation facilities from Montreal to Australasian ports, for Canadian products, which are now being forwarded via New York, and this service will begin with the opening of navigation on the St. Lawrence, about the first week in May, on a monthly schedule. Instead of one there will probably be three direct steamship lines to ports in France the coming season—one to Havre, another to Cherbourg, the third not yet chosen.

Present indications favor an early opening of navigation on the St. Lawrence, the river at this point having remained open nearly all of the winter, a condition without precedent within the knowledge of the present generation.

FOREIGN RAILWAYS.

WORLD RAILROAD BUILDING.

MEXICO.

BUILDING OF THE CHIHUAHUA-COAHUILA RAILROAD.

Consul L. J. Keena says that a bill will be presented during the coming session of the Chihuahua legislature for ratification granting a subsidy of $200,000 gold to the Coahuila, Chihuahua and Northwestern Railroad, to be used in the construction of a 156-mile railway between the city of Chihuahua and the state boundary line of Chihuahua and Coahuila.

That part of the road in the State of Coahuila has already been subsidized by that State to the amount of $2,500 per kilometer (0.62 miles). Monclova will be the eastern and the city of Chihuahua the western terminus of the line. The average cost of this road is estimated at $12,500 per kilometer. Construction work will be started from the Monclova end of the road in order to open up as rapidly as possible the coal fields which have been discovered some 75 miles west of that city. It is reported that the Monterey Steel Company has contracted for the entire production of these coal fields.

This line will be of great benefit to the State of Chihuahua, in the eastern part of which the road will reach some iron and low-grade mineral districts, and will also pass close to the Laguna de Jaco, around which lake great deposits of salt have been found. The country which will be traversed in the State of Chihuahua is mostly fertile, in which the water needed for irrigation, for agriculture, and cattle raising can be found at small depths. Besides, the road will bring the products of the States of Coahuila and Nuevo Leon to the State and city of Chihuahua at greatly reduced cost. The saving which should be effected by this shorter haul on such commodities as coal, iron, and steel will be of material advantage to industries located in the State of Chihuahua.

ORTIZ-MEOQUI LINE.

A concession was granted by the state government of Chihuahua on March 10, 1910, for the construction of a 3½-mile railroad from the town of Ortiz, on the line of the National Railroad, to Meoqui. Under the terms of the concession horse, steam, or electric power can be used. Meoqui is the center of a productive agricultural district, and the road will be used for carrying the products to the National Railroad at Ortiz.

[The names and addresses of the promoters of both the foregoing lines are on file in the Bureau of Manufactures.]

RAILROAD EXTENSION IN STATE OF CHIHUAHUA.

Consul Keena, writing from Chihuahua, also says that the Mexico Northwestern Railroad is rapidly pushing forward the grading work

on its connecting line between Terrazas, the terminus of the Rio Grande, Sierra Madre and Pacific Railroad, and Madera, the terminus of the Chihuahua Pacific Railroad.

These two companies, together with the Sierra Madre and Pacific Railroad and the El Paso Southern bridge, were absorbed in 1909 by the Mexico Northwestern. The extension from Madera to Terrazas will add 116 miles of track to the 307 miles which the company now has in operation, and will bring transportation advantages to the Guaynopita and Guaynopa copper-silver-gold districts. It will also open up large tracts of valuable timber land in western Chihuahua, and will connect the city of Chihuahua with El Paso, Tex., though in so roundabout a way that it is not probable freight rates between these two points will be affected. Every effort will be made to have the Madera-Terrazas road in operation by the end of the present year.

[The addresses of the officials of the company may be secured from the Bureau of Manufactures.]

PAN-AMERICAN RAILWAY.

IMMEDIATE RESULTS FROM ITS DEVELOPMENT.

Consul Albert W. Brickwood, of Tapachula, Chiapas, Mexico, reports as follows concerning the development of the Pan-American Railroad and the immediate results of such development:

The Pan-American Railroad for many miles of its course is paralleled by the Sierra Madre mountain range, back of which lie valleys of unsurpassing richness of soil and productivity—regions now reached only by the ox cart or pack train. Lately reconnoitering parties of civil engineers and capitalists have traversed these valleys, the result of such examination being the projecting and early contemplated building of a railroad, on the recommendation that railroad building into those regions is pronounced practicable, the route favored being from Jalisco station, Chiapas, a convenient point on the Pan-American Railroad, into the Zintalapa Valley, in turn into Corzo Valley, thence through Frailesca Valley and the State of Tabasco to the port of Frontera, Tabasco, on the Gulf of Mexico, via the capitals of the States of Chiapas and Tabasco.

It is reported that the work of grading, preparatory to connecting the point of union between the Pan-American Railroad and the Guatemala Northern Railroad, which will extend from Ayutla, Guatemala, on the Mexican frontier, to the town of Caballo Blanco, on the Guatemala Northern Railroad, has been commenced. Ayutla is located just beyond Mariscal, across the River Suchiate, over which a great international bridge will be constructed. This line will be about 25 miles long, and will be one of the links in the Pan-American system, which in course of time will extend from Alaska to Panama, and eventually to South America. Within a year or sixteen months at the latest it is hoped that through Pullman cars from the United States and Mexico will enter Guatemala City via the Pan-American and Guatemala Northern Railroads. On the conclusion of the lines between Ayutla and Caballo Blanco, Guatemala, and that in Salvador there will be established an ample freight service from Salvador across Guatemala, Mexico, and the United States to eastern and west-

ern Canada, and a complete service of communications among the four republics.

RESULTS OF THE PAN-AMERICAN SYSTEM.

The future potentiality of the Pan-American system can be foreseen. Among many factors will be the diverting of the movement of the Guatemala coffee export trade, reaching 30,000,000 pounds, not to speak of the greater part of freight for the United States and Europe from Guatemala and other Central American countries, from water routes out of Guatemalan and other Central American ports to the rail route over Central American railroads to Ayutla, Guatemala, across the international bridge to be built over the Suchiate River, thence to Mariscal, Chiapas, on the Guatemala frontier, and over the Pan-American Railroad to Gamboa, Oaxaca, transfer being made to the Tehuantepec National Railroad for carriage across the Isthmus of Tehuantepec to Puerto Mexico (Coatzacoalcos), on the Gulf of Mexico, or to Salina Cruz, on the Pacific coast.

The Department of Finance of Mexico has provided for the construction of a frontier custom-house and warehouse at Mariscal for the entry of freight, and it is thought that the Government of Guatemala will make like disposition for the erection of similar buildings in Ayutla on the Guatemala frontier.

According to late news, the construction of the international bridge over the Suchiate River, which will form rail connection between Mexico and Guatemala, is about to be undertaken. The bridge will be about 800 feet long and is to be completed within a few months, furnishing a complete service, without the necessity of a ferry between Mariscal, Mexico, and Ayutla, Guatemala. Particulars as to this bridge may be obtained from the address forwarded. [On file in the Bureau of Manufactures.]

Both freight and passenger traffic on the Pan-American Railroad have already increased so rapidly as to necessitate new locomotives and passenger coaches. A daily train and Pullman service direct from the north to Tapachula and to the Guatemala frontier is promised for May, 1910. The road is undergoing many improvements, being rehabilitated with new ties, steel rails, and steel bridges, the roadbed raised and strengthened wherever needed, so that in the next rainy season it is assured that there will be no interruption of train service. New concrete railroad stations are being constructed along the line, and iron telegraph posts substituted for wooden poles. The railroad is about to build its shops in Tonola, Chiapas, on lands donated by the municipality of that town. The government of the State of Chiapas has granted a concession to install an electric-light and motive-power plant, to furnish the town of Tonola with illumination and motive power for the operation of the Pan-American company's shops. The conditions of the concession are that the plant must be installed before September of the present year. Attention is directed to the opportunity the projected plant suggests to American electrical firms. [Address of the party to whom this concession was granted may be had at the Bureau of Manufactures.]

CONSTRUCTION OF THE ZACATECAS AND ORIENT RAILWAY.

Consul Thomas W. Voetter, of Saltillo, advises that the concession for the construction of the Zacatecas and Orient Railway has been

signed by Governor Zarate, of the Mexican State of Zacatecas. It is a renewal of a former concession, and will extend from Camacho station on the Mexican Central line, 105 miles to Mazapil, traversing a rich guayule rubber district and an important mining region. The name of the manager of the proposed railway may be obtained from the Bureau of Manufactures.

CONCESSION FOR NEW MEXICAN RAILWAYS.

Chargé d'Affaires James G. Bailey sends from Mexico City a published announcement that a concession has been granted to William Prim Wood to build a railroad 1,000 kilometers (620 miles) from Santa Lucretia, at the junction of the Veracruz and Pacific and the Tehuantepec National Railways, to Yucatan, where it will connect with the United Railways. The subsidy is about $7,500 gold per kilometer, and the line will give Merida a rail connection with Mexico City and other points on the American continent.

Consul Alexander V. Dye, of Nogales, sends a copy of the official notice of the opening to general traffic, on March 6, of a branch of the Sonora Railroad from Corral to Tonichi. The branch is 96 miles long, running through a rich mineral region. Shipments of ore from this section are already passing through the port of Nogales.

EXTENSION OF NEW LINE FROM TEXAS.

Consul Luther T. Ellsworth, of Ciudad Porfirio Diaz, states that the Kansas City, Mexico and Orient Railway Company is arranging to build a branch line from San Angelo to Del Rio, Tex., where it will bridge the Rio Grande and traverse the Mexican district at Las Vacas, where there are several irrigation systems, and finally intersect with the National Railways of Mexico at Sabinas. The company will need various supplies, and its address may be obtained from the Bureau of Manufactures.

HONDURAS.

CONSTRUCTION OF THE IRIONA–JUTICALPA RAILROAD.

The following information, concerning the construction of a new and important railway in Honduras, is furnished by Consul Drew Linard, of Ceiba:

A concession granted by the Government of Honduras early in 1909 for constructing a railroad from Iriona, the Atlantic terminal, to the inland city of Juticalpa, and embracing the concessionary option of extending lines to Tegucigalpa and the Pacific port of Amapala, was financed in Chicago, with a capital of $5,000,000, and incorporated under the laws of the State of Delaware as the North and South Interoceanic Railroad Company. Engineers have completed the location survey to Juticalpa, the first objective point, 144 miles, and grading for a standard-gage road was begun in October last.

The work involved is of considerable magnitude, as it is intended to jetty the mouth of the Gualaya River, upon which Iriona is situated, and deepen the channel to a depth sufficient to enter vessels drawing 30 feet; to lay out a town site with proper drainage, install

water and electric-light plants, and erect a wireless station. Quoting an authentic source:

> The work is to be pushed with vigor and completed as rapidly as men, money, and machinery can accomplish it, and new constructing and operating material, including dredge, pile driver, sawmill, tugboat, rails, engines, cars, etc., will be delivered at Itlona in May, 1910.

The road, when completed, will pass through the hard-wood, agricultural, and mining districts of that region and, aided by intended colonization, will develop the natural resources and open to American commerce a practically virgin territory. [The names of the officers of the company are on file in the Bureau of Manufactures.]

NICARAGUA.

PRESENT CONDITION OF THE NATIONAL RAILROAD.

Consul José de Olivares, of Managua, furnishes the following information concerning railway matters in Nicaragua:

There is only one railroad in operation in Nicaragua. It traverses a comparatively small district in the extreme western portion of the Republic and, including its several branches, represents a total length of 171½ miles. Starting from the port of Corinto, on the Pacific coast, it extends in a northwesterly direction 12 miles to the city of Chinandega, and thence in a southeasterly direction to Leon, Managua, Masaya, Grenada, and Diriamba. From El Viejo, the terminus of a branch line, 4½ miles northwest of Chinandega, to Diriamba, the greatest continuous length of the road in a southeasterly direction parallel with the Pacific coast is 125 miles.

About 20 miles of the southeastern end of this railroad penetrates into one of the principal coffee-growing sections of Nicaragua, a somewhat mountainous region, the highest point of which is 1,644 feet above the sea level. With this exception the road extends over a comparatively low and unbroken country, devoted chiefly to agricultural and stock-raising industries.

The gage of the road is 42 inches, the maximum grade 28 to the thousand, and the weight of rails 30 to 40 pounds to the yard. The road was built by sections, covering a period from 1884 to 1903. Its present general condition, due to defective construction work and inadequate upkeep, is bad. The rolling stock is limited in amount and of an inferior order, and the service, both passenger and freight, is poor.

The road is the property of the Nicaraguan Government, but on December 26, 1903, it was leased for a term of 10 years to a citizen of Germany. This contract provides that of the earnings of the road 25 per cent shall be paid to the Nicaraguan Government, 10 per cent shall be devoted to repairs, and the residue, 65 per cent, shall go to the holder of the lease, who must pay therefrom the expenses of administration, exploitation, etc.

With this contract or lease as a basis the National Railroad and Steamship Company (Limited) was formed. [Two pamphlets, in Spanish, one being the report of the manager of the road and the other giving passenger and freight rates and the rules and regulations governing the road, are on file in the Bureau of Manufactures.]

COSTA RICA.

PROSPECTIVE VALUE OF RAILWAYS TO THE PAN-AMERICAN SYSTEM.

Minister William Lawrence Merry, of San Jose, furnishes the following information relative to the railways of Costa Rica in connection with the Pan-American railway system now under construction in Mexico and about to be commenced in Guatemala:

The Costa Rican Railway Company, an English corporation, owns the railway from Port Limon to San Jose, with a general direction nearly west. Its length is as follows: Limon to San Jose, 102.1 miles; San Jose to Alajuela, 13.6 miles westward from San Jose. There are several branches in the banana district, near the eastern coast, not included herein, but nothing of consequence, except for the local business of the company. The gage is 3 feet 6 inches, with weight of rails 60 pounds per yard and ties of iron and wood. The heaviest grade is 4 per cent, with average a trifle over 2 per cent per mile, with many short curves. This railway was built on a concession for 99 years, now over one-quarter expired, and will become the property of the Government at its expiration. The stock of the company is mostly owned in England; the bonds are owned by English and American capitalists, but controlled by the United Fruit Company, an American corporation. The road is operated by the Northern Railway of Costa Rica, an American corporation, under a term agreement for 99 years, made four years since, with guarantee of limited dividends and interest payable on bonds. It is an expensive and well-built road and fairly well equipped, consuming American semibituminous coal, mostly Pocahontas.

The Northern Railway of Costa Rica is incorporated in New Jersey and owned by the United Fruit Company. It extends from Port Limon northwestward 139 miles; with 3 feet 6 inches gage and rails 60 pounds to the yard, American standard. No bonds have been issued upon the road, which is well built and equipped; its main purpose being the transportation of bananas, laborers, and provisions for the plantations. The grades are generally much easier than on the Costa Rica Railway, and it has less abrupt curves, being built in a more level country. The foregoing two railways are operated by American management, with headquarters at San Jose. The employees are mostly American and English, but Costa Ricans are given employment when proved competent. The labor on these roads is native and Jamaican, the latter (negroes) being mostly employed near the eastern coast, in malarious districts, generally avoided by the natives.

GOVERNMENT LINE—OTHER ENTERPRISES.

The Costa Rica Pacific Railway is owned by the Government, and is 67 miles long. About 52 miles was completed by an American contractor about six years since, and the Pacific end is now under construction by an American contractor for account of the Government. It is expected to be completed within six months. The gage is 3 feet 6 inches, and it has many short curves in the mountain section, with grades 2½ to 4 per cent. The Government has issued no stock upon this road, and the bonds issued for its construction are held in the United States, the interest being guaranteed by Costa Rica. This road connects at San Jose with the Atlantic Railway, and its western terminus is at Puntarenas on the Gulf of Nicoya. The ties are

of wood, and rails 50 pounds to the yard. The fuel used in operating it at present is wood. The traffic is light, and the road has not paid expenses thus far, but will doubtless do better when completed, establishing a new transit between the oceans, although it can never compete with either the Panama or Tehuantepec transit, the grades in Costa Rica between the oceans being heavy, with an elevation of 5,040 feet at El Alto, 2 miles west of Cartago.

The Costa Rica Electric Light and Traction Company's electric railway at San Jose and suburbs, 8¾ miles long, is owned by an English corporation, which also partially furnishes electric light for the capital; carries passengers only.

So far as known to the writer, the Costa Rica railways have no value in connection with the Pan-American Railway except as important feeders when it is completed. The surveys already made locate the Pan-American Railway near the Pacific coast of the Republic, avoiding, as far as practicable, the mountains near the coast in the southern part of the Republic. The narrow gage of these roads is also an impediment to their utilization in the main line. But as the earning capacity of the Pan-American Railway will largely depend upon its feeders, these roads will become important aids.

The bridges first constructed for railway purposes in Costa Rica were of iron, but all of more recent construction are of steel and some of them are fine structures, notably the bridge on the Pacific Railway across the Rio Grande, which is one of the finest in Spanish America. This is an American cantilever bridge, with a span of 586 feet between abutments and 312 feet above the bottom of the chasm which it spans.

The temperate climate of the Costa Rica plateau and its beautiful scenery will be very attractive to passengers. Even now tourists from the United States and employees of the Canal Commission are visiting the Costa Rica highlands for health and recreation. Costa Rica has many small rivers with heavy grades and rapid currents, which can furnish electric power for all railways and manufacturing needed in the country. Wood is of poor quality and expensive, and no good steam coal has been found in the Republic, although some veins of lignite have been discovered, but these are of little value for heavy fuel.

VENEZUELA.

NEW LEASE OF THE CORO AND LA VELA RAILROAD.

Minister William W. Russell, of Caracas, furnishes the following information concerning a Venezuelan railway enterprise:

The old lease of the Coro and La Vela Railroad having expired on December 31, 1909, the Government has now leased the same, with the coal mines of the State of Falcon, to General Leon Jurado. Under the contract, which is for two years, with a further extension of two years, if desired, the Government will place at the disposal of the lessee $1,930 for the repairs of the road, which are urgently necessary.

The contractor is permitted to extend the railroad to the mines, for which the Government will find the money, and grant him free entry for all the materials he may import for this purpose. The contractor binds himself to sell to the Government in La Vela de Coro

all the coal it needs at $3.47 a long ton for lump coal and $3.10 for dust coal. If the Government finds the money for the extension of the line to the mines, the price of lump coal is to be $2.90. When all the needs of the Government have been satisfied, the contractor may sell any surplus coal on deposit to the public.

BRAZIL.

EXTENT OF NEW RAILWAY CONSTRUCTION.

During 1909 350 miles of railway were opened for traffic in all Brazil. Vice-Consul-General J. J. Slechta says that of this total 100 miles were on various lines of the Brazil Railway Company, between Sao Paulo and Rio Grande do Sul. About 108 miles were built by the Compagnie Auxilaire de Chemins de Fer au Brésil, on its various extensions in the State of Rio Grande del Norte. On the Northwestern of Brazil Railway, in process of construction from the State of Sao Paulo to the Bolivian border, some 25 miles were opened for traffic, and about 42 miles on the Victoria-Diamantina Railroad, in Espirito Santo and Minas Geraes. The remaining extensions were on various federal government lines, aggregating 75 miles.

PARAGUAY.

EARLY CONNECTION WITH ARGENTINE RAILWAYS.

The linking up of Paraguay with Argentina by rail is described in the following report by Consul Cornelius Ferris, jr., of Asuncion:

The extension of the Paraguay Central Railway from Pirapo to Encarnacion, on the Parana River, is progressing steadily, the rails being laid into Encarnacion by the end of March. Ferryboat connection will be made with Posadas, on the Argentine side of the river, to which point the Argentine Northeastern Railway is being extended. This will give Paraguay its first connection with the outside world by railroad, although the Paraguay Central is the oldest road in South America. Through service is expected between Asuncion and Buenos Aires by the end of 1910.

For through service the wider gage of the Paraguay line is to be changed to that of the Argentine Northeastern, and the old rolling stock entirely replaced by new equipment which has just arrived from England. It consists of 20 locomotives, 1 officers' car, 223 freight, 2 dining, 3 parlor, 2 compartment, 2 sleeping, and 12 day cars, 8 baggage, mail, and express cars, 1 wrecking car, and 1 20-ton, flat-bottom boat with steam winch. Of the $1,410,000 additional stock issued by the Paraguay Central Railway $1,070,000 was taken by the Argentine Government, which also secures the old rolling stock for use on Patagonia railways.

ARGENTINA.

EUROPEAN CAPITALISTS APPRECIATE THEIR IMPORTANCE.

Consul-General R. M. Bartleman, of Buenos Aires, furnishes the following information concerning the activity of European capitalists in railway building in Argentina and the changes in railway control to result:

Argentina is annually building more miles of railway than any other South American country. The Rosario-Puerto Belgrano Railway, which crosses the province of Buenos Aires and connects two growing trade centers, will undoubtedly be a profitable and an important line, and its success will entail the investment of more and more French capital. Various rumors of German lines have been circulated, and it is not at all improbable that some of them will be built within the next five years. While the English lines have a commanding position at present, the next fifteen years will undoubtedly bring about considerable changes in their proportion of railway mileage and the consequent relative decline of their influence, as the French and other Continental capitalists are fully awake to the profits to be obtained from railways in the largest Spanish-speaking South American Republic.

The prospective opening of the Transcontinental Railway, connecting Valparaiso and Buenos Aires, will undoubtedly stimulate competition to the extent of building a rival line within the next five years, which will result in greater annual increases in the mileage of Argentine railways. [The Railway Statistics of Argentina for 1908, with a railway map corrected up to January 1, 1910, accompanied the consul-general's report, and is on file in the Bureau of Manufactures.]

CANADA.

COLONIZATION OF THE NORTHWEST NECESSITATES MANY NEW LINES.

Writing from Winnipeg, Consul-General John E. Jones says that according to an official programme of the Canadian Pacific Railway 621 miles of new road will be built this year according to the following summary:

A large portion will be "colonization" lines—extensions of existing branches in recently settled sections. It is estimated that 346 miles of new road will be built in Saskatchewan, 45 in Alberta, 174 in British Columbia, and 56 in Manitoba. The new construction in Manitoba will include double-tracking the line from Winnipeg to Portage la Prairie (and eventually to Brandon), which will give a double track 518 miles from Portage la Prairie to Fort William, a section which has often been congested during grain movements.

ENGLAND.

FACTS CONCERNING BUSINESS AND MANAGEMENT OF RAILWAYS.

Special Agent Henry Studniczka reports from London on the business and equipment of British railroads as follows:

In an effort to investigate what American railroad supply men might be able to do with the railroads here, visits were made to the superintendents or traffic managers of four of the principal lines. The Great Western, the largest system in England, operates with all its leased lines over 3,000 miles and has over 2,596 locomotives; the North Western operates 1,965 miles and owns 2,620 locomotives; the Midland Railroad operates 1,411 miles and owns 2,800 locomotives; the North Eastern Railroad operates 1,698 miles and has 2,000 locomotives. All of the men seen were ready and willing to consider any

improvements that may be offered which in their judgment would secure additional safety or reduce running expenses. As there must be many points of interest in the improvements as they exist here, this report is made to show some of their most noteworthy features.

OPERATION OF FAST TRAINS.

The Great Western Railroad runs the Cornish Riviera Limited Express, which is one of the fast trains in England. It leaves Paddington, London, at 10.30 a. m. and reaches Penzance, a distance of 305 miles, at 5 p. m. The trip to Plymouth, a distance of 226 miles, is made without a stop from London in 4 hours and 7 minutes. The engine is fired with the best smokeless steam coal, and five tons are consumed on the trip. This train has the usual side gangways by which the compartments are entered, and is equipped with dining-car service. The Great Western has no sleeping cars, as all their passenger-train schedules are arranged almost exclusively for day traffic. This system handles the United States mail for Great Britain coming by the way of Plymouth or Fishguard, the last-named place being 55 miles nearer to New York than Plymouth. The Cunard Line steamships stop there to unload mail going east. Fishguard is 260 miles from London, and passenger trains make this run in less than 5 hours. At 10 a. m. sharp the entire system receives the exact Greenwich time.

The standard passenger carriage on the Great Western and other roads is 9 feet wide and 57 feet long. The side entrance compartment car is adhered to as being the most practical for interchange for the Welsh and Scotch railroads. The Great Western Railroad operates on their Riviera Limited three slip coaches which are uncoupled by a brakeman, who is inside of the car, by a most ingenious lever arrangement, and are left behind on passing a station without detaining the train. Three such cars are dropped between London and Plymouth. The other railroads do not seem to take kindly to this method of dropping cars.

The self-contained motor cars, which have an engine at one end and can be operated by a gear from both ends of the car, the car accommodating 80 passengers, seem to be worthy of consideration. If necessary a trailer can be attached to such a car. The principal object of this car is its use for short branches which feed the trunk lines.

NEW HOSPITAL CAR—PARLOR CAR FOR HORSES.

The Great Northern Railroad has recently built a new car 50 feet long, 9 feet wide, on two four-wheeled trucks. This car is divided into two toilet compartments, two first-class corridor compartments, one family or individual saloon, with attendant's and luggage compartments. It is lighted by electricity and is heated by nonstorage steam heaters. There is an invalid compartment fitted independently, with a system of hot-water heating. The car has large windows, and is provided with the best possible ventilation. The family or invalid compartment is placed in the middle of the vehicle so as to clear the resting bed well from the trucks. The bed is fitted with an invalid bed rest, which can be removed when not required, while a couch, three easy chairs, and portable tables make it a desirable parlor car, if not needed for an invalid car. All of the car is up-

holstered, carpeted, and draped in the most luxurious manner. Photographs showing outside and inside views of the hospital car are filed with the Bureau of Manufactures.

The shipment of gentlemen's fancy horses is quite a feature in England, and cars for that purpose are built for three horses and have a groom room in front of the horses' heads. The stalls are padded and the horses are so arranged that, if desired, by opening a shutter they can look into the groom's compartment, and it is claimed that a high-grade horse in constant company with his groom will not fret during transportation. The total weight of these horse cars is not over 10 tons.

The cars carrying coal from the mines handle only from 10 to 12 tons each. They are mostly owned by the mines, and the established

New invalid car of Great Northern Railroad.

methods of handling them, such as scales, lifts, or elevators, at mines and docks, and other similar necessary appliances do not permit of heavier cars. These freight cars have four wheels only.

The Great Western Railroad, some three years ago, established the audible signal device and has been so well satisfied with the system that it recently voted to extend it. Captain Ames, from the United States, fully investigated this system for the Interstate Commerce Commission.

A gross statement of the business of the Great Western for 1909 may not be without interest. The figures were furnished by the general superintendent, as follows:

Capital invested, $525,582,000; total receipts, $149,644,000; total wages paid, $17,502,604; gross passenger receipts, $32,060,502; gross freight receipts, $33,792,976; total number of passengers carried,

100,298,000; total freight tonnage, 52,000,000 tons of 2,240 pounds each; dividend paid, 5¼ per cent.

DEVELOPMENT OF THE TRAMWAY SYSTEMS.

An official report showing the development of the tramway systems in the United Kingdom is summarized by Consul F. I. Bright, of Huddersfield:

The capital expenditure has increased since 1878 from $20,475,068 to $345,634,592, and the net receipts from $1,123,918 to $22,365,455. Of the whole 2,526 miles of route open for traffic in 1908–9, 2,360 miles are operated by electric traction. The mileage not so operated is given as 166. The following table shows the growth of British tramways since 1878, by comparing the results obtained in certain years according to the power used. The figures embrace tramways and light railways, the latter being constructed to assist traffic in country districts and also between towns and outlying villages:

	1908–9 (electric period).	1898 (steam period).	1878 (horse period).
Miles of route open	2,525.98	1,064.19	321.27
Passengers carried	2,659,981,136	858,485,542	150,881,515
Capital expenditure per mile of single track	$84,409.00	$50,947.00	$48,066.00
Percentage of net receipts to capital outlay	$6.47	$6.38	$3.97
Passengers carried per mile of route open	1,053,049	806,703	469,641
Average receipts per passenger	$0.02	$0.02½	$0.03½

SWITZERLAND.

PRESENT RAILWAY MILEAGE IN CONTINENTAL EUROPE.

The following statement furnished by Consul-General R. E. Mansfield, of Zurich, shows the railway mileage in 14 of the European countries, with the per cent of increase in the totals from 1905 to 1909, inclusive:

Country.	1905.	1906.	1907.	1908.	1909.
Germany	34,659	35,273	35,770	36,204	36,701
Austria	12,420	12,606	13,041	13,103	13,289
Hungary	10,868	11,178	11,426	11,489	11,923
Bosnia-Herzegovina	510	540	621	621	621
Belgium	2,795	2,795	2,857	2,857	2,857
Denmark	1,242	1,242	1,292	1,279	1,298
France	24,467	24,530	24,716	24,840	24,964
Italy	8,259	8,421	8,384	8,570	8,632
Luxemburg	233	233	233	233	233
Netherlands	1,677	1,739	1,739	1,863	1,863
Roumania	1,969	1,975	1,975	1,975	1,975
Russia	33,410	33,658	38,317	40,055	40,117
Sweden	.....	.....	.....	2,416	2,627
Switzerland	2,267	2,291	2,323	2,341	2,391
Total	134,806	136,481	142,694	147,846	149,491
Per cent increase	.....	1.22	4.55	3.6	1.11

The foregoing figures show that the 14 countries included in the list have a little less than 150,000 miles of railway, the combined mileage being less than that of the United States. The greatest per cent of increase in the total during the five years is shown in 1907, which was 4.55 per cent. Germany, Austria, and Hungary show an increase of about 1,000 miles each during the five years, and Russia

approximately 7,000 miles. The figures show slight extensions of roads in the other countries mentioned.

In most of the countries included in the foregoing list the Governments either own or control the majority of the railways. Of the 2,391 miles of road in Switzerland, 1,485 miles are owned and operated by the Federal Government.

AUSTRIA.

TRAFFIC ON RAILWAYS AND TRAMWAYS DURING THE PAST YEAR.

Consul Joseph I. Brittain, of Prague, furnishes the following statistics covering the workings of Austrian railways and Bohemian tramways in 1909:

There were carried on all Austrian railways, in 1909, 219,348,491 passengers and 143,710,569 tons of freight. The total receipts, passenger and freight, amounted to $174,458,200, an increase over 1908 of $3,329,200. The total length of railway lines in 1909 was 13,884 miles, an increase of 241 miles as compared with 1908. The average receipts per mile of railway in 1909 were $7.81, against $7.79 in 1908.

The traffic on the street electric railways of Bohemia in 1909 was as follows: Passengers, 55,679,248; receipts, $1,565,078, of which the Prague lines alone contributed 42,634,681 passengers and $1,181,312 receipts, leaving for all other street railway traffic in Bohemia 13,044,567 passengers, and $383,766 receipts.

EGYPTIAN SUDAN.

CAPE-TO-CAIRO RAILWAY BUILDING PROGRESS.

Consul Solomon Berliner, of Teneriffe, Canary Islands, reports that on January 1, 1910, another section of the railway on the Cape-to-Cairo route was opened for public traffic. He quotes the following announcement as to the progress of this line:

> The line from Khartum southward, which follows the west bank of the Blue Nile, has already reached Wad Medani, 120 miles south of Khartum, and this section is to be used immediately. Wad Medani is an important place on the Blue Nile, being the second largest center of population in whole Anglo-Egyptian Sudan and the headquarters of the governor of the Blue Nile Province and of one of the Sudanese regiments. Three trains a week will be run each way on alternate days, starting from a temporary station on the south side of the new bridge across the Nile at Khartum.
>
> The construction of the line beyond Wad Medani is proceeding rapidly, about a mile a day being laid. Its course continues some 50 miles farther south along the Blue Nile and then turns westward across the Ghezireh to the White Nile at Kosti, where a new bridge is already half completed to take it up to El Obeid, in Kordofan. This section from Kosti to El Obeid will not be on the through Cape-to-Cairo route, and through travelers will have to leave the rail at Kosti for the south by boat up the White Nile.

CHINA.

NEW LINE TO A PORT ON YELLOW SEA.

Chargé d'Affaires Henry P. Fletcher, of Peking, China, communicates to the Department of State the information that the Chinese Government has decided to construct an 80-mile railway from Haichou, on the Yellow Sea, about half way between Shanghai and

Weihaiwei, to Chingkiang. A railway is now in the course of construction from Chingkiang, at the mouth of the Grand Canal, to Hsuchou, on the Ching Pu Railroad. The Ching Pu Railroad runs south from Tientsin to Shanghai. The course of the projected line from Haichou to Chingkiang is almost exactly south, and the general direction of the line now being built from Chingkiang to Hsuchou is east and west.

From Hsuchou a line is also projected by the Chinese Government to extend to Kaifengfu, capital of the Province of Honan. The distance between Hsuchou and Kaifengfu is 170 miles. At Kaifengfu the new line will connect with a branch of the trunk line which extends from Hankow, in the Province of Hupeh, into North China.

The Chinese Government plans eventually to extend the line westward to Tung Kuan, Hsianfu, and Hsinchiang, a far inland city. The combination of new lines cuts the two north-to-south lines at right angles.

The route selected from Haichou passes through a populous part of China, and it is believed by the Chinese Government that the road will pay dividends, as well as assist greatly in the development of the country. The people of the district are at present suffering from the effects of floods and famine, and the work will be begun as soon as possible, in order to give it the added advantage of being relief work.

The harbor of Haichou will be improved and facilities for handling freight will be installed, in order to encourage foreign trade to go to that port.

The funds for all the work will be advanced by the Bank of the Ministry of Communications, but will subsequently be repaid from a loan floated through the Ta-tsing Bank with recourse to foreign capital. It is impossible at present to state the exact amount of the loan, but the issue probably will be $25,000,000 at least.

RAILWAY SUPPLIES.

SIAM.

AMERICAN QUOTATIONS ARE HIGH—GERMAN PRICES LOWEST.

Foreign Trade Opportunity, No. 4125, published in Daily Consular and Trade Reports on November 17, 1909, gave notice of a public tender for railway equipment in Siam. Twelve American firms responded and were supplied by the Bureau of Manufactures with specifications and blanks. The outcome is announced by Consul-General G. Cornell Tarler, who writes from Bangkok:

The first specifications for tenders for the Southern Siamese Railway were issued on July 19, 1909, and were for tools and other plant, but on account of the limitation of time in delivery did not permit of bids from abroad, and therefore the contracts were awarded to local firms.

The second specifications for tenders for five tank locomotives, five rail wagons, and 125 ballast wagons were issued on September 18, 1909, and the tenders were opened on January 28, 1910, comprising 41 for engines and 42 for ballast wagons. The tenders from German firms were the lowest, ranging as low as $21,731 for engines and $36,295 for the ballast wagons. Two American firms tendered for engines at $34,650 and $29,569, respectively. No bids for ballast wagons from American firms were received. The lowest bid from

British firms for engines was $27,730. The Railway Department states that several of the tenders are accompanied by letters in which extra rates are asked for if the more approved class of design and material should be required.

In awarding the contracts the engines were ordered from an English firm at its bid of $27,730, although German tenders were lower. The award for the wagons was given to a Belgian firm at $47,450. [A list of the tenders is filed for reference at the Bureau of Manufactures.]

BRITISH INDIA.

GOVERNMENT GRADUALLY OBTAINING CONTROL OF ROADS.

Consul E. Haldeman Dennison, of Bombay, furnishes the following information in answer to an inquiry regarding the market for railway material and supplies in India:

Most of the railroads of India have now come under government control. Formerly they were worked entirely by joint stock companies under contracts with the Indian government by which the State acquired the properties, after a long term of years, on certain conditions. The obvious intention is ultimately to pass all railroads under state control, but for some time at least most of them will be operated by the original boards of directors on a system similar to that adopted for the lines already purchased. It is a compromise between state management and private enterprise.

The head officers and boards of directors of these lines are located in London, and it is to these offices that all indents for important purchases are sent. Under certain conditions purchases not exceeding certain limits are permitted to be made in India, not only by the railroads, but also by the public works department of the Imperial and provincial governments, as well as other departments of these governments.

RULE GOVERNING PURCHASES BY RAILROADS.

The rule for the purchase of articles not manufactured in India is as follows:

> Articles which are not manufactured in India should be obtained by indent upon the store department of the India office except in the following cases: (1) When the articles are already in India at the time of order and the cost of the supply does not exceed certain limits; (2) in case of important construction works let out on contract, articles not manufactured in India and required for the construction of such works may be supplied by the contracting firm, subject to the following conditions, that the firm is approved by the government of India and is included in the list of firms so approved and that the materials are subject to the current specifications and tests prescribed by the government of India.

The limits mentioned in this rule depend upon the rank of the government official, the officer permitted to make the largest purchase being limited to $1,000.

A German firm, with local representation, appears to have the field to itself in supplying light railway material. Firms desirous of developing a trade in light railway material, etc., would do well to work through the London offices of the Indian railroads, as well as through their local offices. In this way local officers might be induced to specify American goods when making up their indents on the home office. [Names and addresses of persons with whom correspondence should be taken up are on file in the Bureau of Manufactures.]

CANADA.

GRAND TRUNK LINES BUY NEW DESIGNS FROM THE STATES.

Vice-Consul-General P. Gorman, writing from Montreal, gives the following information concerning the purchase of freight cars by the Grand Trunk and Grand Trunk Pacific railways:

The order has been placed with the Western Steel Car and Foundry Company, of Chicago, for 2,000 steel-frame box cars of 60.000 pounds capacity each, or about the ordinary size box cars. These steel-frame cars cost about $1,000 each, so that this one order represents more than $2,000,000.

The importance of the automobile trade to the railways is shown by the fact that the Grand Trunk has ordered 500 special automobile cars. These are large box cars, with specially designed doors at the ends, which will allow a large touring car to be run in or out without difficulty. The Grand Trunk touches Detroit, Lansing, and other cities in the West which have large automobile factories, and the cars have been found necessary to handle this trade.

This system has also been considering the purchase of a number of steel-frame box cars, of 100.000 pounds capacity each, for the wheat handling trade. A train of 20 such cars could carry 1,000 tons of wheat each trip, with a minimum of handling. However, it has been decided not to order these cars at the present time.

AGRICULTURE.

COTTON INDUSTRY OF RUSSIA.

MANUFACTURE AND FIBER GROWING IN THE EMPIRE.

Consul-General John H. Snodgrass, of Moscow, furnishes the following statistics concerning the manufacture and production of cotton in Russia:

The cotton-manufacturing industry in Russia, which had been previously a mere cottage industry, began to be organized on modern lines about 1825, and large factories sprang up soon afterwards. One large firm obtained permission to import English textile machinery in 1840, and this firm fitted up and obtained an interest in as many as 122 factories. The largest one of these was built at Narva in 1856, and contains at the present time 461,900 spindles and 3,028 looms, driven by water power. These mills produce about $6,180,000 worth of spun cotton, etc., per annum, employing 5,400 hands. Another large factory, located at Yaroslav, produces about $6,000,000 worth, having 277,100 spindles and employing about 10,000 hands. The largest cotton-goods producers in Russia are two firms in the Lodz district, producing about $7,725,000 per annum each and employing 253,000 spindles, 4,826 looms, and 7,000 hands and 138,300 spindles, 4,437 looms, and 6,500 hands, respectively. There are several mills producing between $2,750,000 and $5,150,000 per annum, and these are fairly well distributed over the Empire.

Russia ranks third among European countries in the number of spindles. There are now 8,076,460 spindles being operated, of which 7,747,440 are spinning spindles and 329,020 twist spindles. In the Moscow district there are 4,805,045 spinning spindles and 29,720 twist spindles; in the Baltic provinces, 1,650,536 spinning spindles and 256,200 twist spindles; in Poland, 1,228,665 spinning spindles and 41,900 twist spindles; in all other parts of the Empire, 63,200 spinning spindles and 1,200 twist spindles. Besides 137,964 automatic and 2,000 hand looms operated by mills, there are about 40,000 hand looms used by the peasants.

IMPORTS OF COTTON.

In 1908 the Russian mills required about $125,000,000 worth of cotton, of which $61,365,340 worth was imported, and of this, according to the Statistical Bureau of the Department of Customs, $49,900,925 worth was American cotton, imported as follows: Direct from the United States, 272,140,032 pounds, valued at $32,421,825; via German commission houses, 104,977,584 pounds, valued at

$11,175,500; via England, 59,187,568 pounds, valued at $6,303,600; total, 435,305,184 pounds, valued at $49,900,925.

For the first 10 months of 1909 the imports of cotton fell off to $37,772,160, of which only $28,483,105 worth was American, due to the abnormal increase in price, caused by speculators in the United States.

The duty on raw cotton imported into Russia is 4 rubles per pood ($2.06 per 36.112 pounds), and the total duty collected on cotton in 1908 amounted to 53,562,000 rubles ($27,584,430).

It will be seen from the foregoing that the greater part of the cotton used in the mills of Russia, especially American cotton, is bought and sold several times before it reaches its final destination, and that necessarily, even under ordinary conditions the price of the raw product has attained abnormal proportions by the time it is delivered in the textile centers of Russia.

The Russian manufacturers assert, without qualification, that if they were able to buy at reasonable figures they would consume $100,000,000 worth of American cotton per annum. As it now stands Russia's purchase of American cotton amounts to more than its entire trade with Great Britain by several millions, and equal to considerably more than one-third of Germany's commerce with the Empire.

VALUE OF OUTPUT.

In the following figures, showing Russia's cotton-manufacturing industry, are included manufactories of cotton goods of all kinds, as well as cotton yarn, cotton spinning and weaving, and the bleaching, printing, and dyeing of cotton goods:

Location of factories.	Number.	Annual production.	Employees.
Moscow government	250	$82,500,000	100,000
Poland	170	46,350,000	49,000
Vladimir government	131	82,500,000	120,000
St. Petersburg government	84	26,780,000	23,000
Riazan government	39	6,180,000	14,000
Saratov government	44	7,725,000	12,000
Kostroma government	33	25,750,000	32,000
All other places	44	25,750,000	38,000
Total	745	303,535,000	388,000

In view of the growing demand for the raw product by the manufacturers, and of the attention that is being given to the cultivation of the plant in central Asia, a detailed statement of its development and its prospects for improvement should be of interest and value to cotton growers of the United States, and it may as well be stated here that unless abnormal speculation is stopped in the United States and the business taken out of the hands of stock gamblers the Russian manufacturers will spend their millions in irrigation projects in Asia in order to supply the home demands and to enable them to compete in the other European markets.

PRODUCTION OF COTTON.

Modern history of cotton culture in central Asia commences with Russia's conquest of these countries, when trials were made with imported seed, chiefly American. First of all sea island was tried, but this could not thrive in the dry continental climate.

In the beginning of the eighth decade of last century, new trials were made with upland seed, which at once produced good results,

and since then cotton culture has rapidly increased, reaching its maximum figures in 1906–7, when a crop of about 800,000 bales, of 300 pounds each, was made. This seems to be about the highest possible yield under present conditions.

Besides the Ferghana district, which produces about 144,500,000 to 252,700,000 pounds of ginned cotton, the following districts grow the staple to about the estimates given: Syr Daria, 54,000 acres, 14,444,800 pounds; Samarkand, 81,000 acres, 21,667,200 pounds; Trans-Caspia, 72,900 acres, 16,250,400 pounds; Bokhara, 130,000 acres, 32,500,800 pounds; Kiva, 81,000 acres, 27,084,000 pounds; Caucasus, acreage not given, 28,889,600 pounds, all in ginned cotton. These figures refer to the crop of 1909–10, which is roughly estimated at 10,000,000 poods (361,120,000 pounds) of ginned cotton, of which about nine-tenths was produced from American seed and one-tenth from home seed.

Twenty years ago, when the production of cotton in all Russia was from 216,672,000 to 288,896,000 pounds, the mills required 541,680,000 pounds, but now, while the production has nearly doubled, the mills require 25,000,000 poods (902,800,000 pounds). The deficiency of about 500,000,000 pounds must be made up principally by American growers. Should the mills be able to buy cotton at a reasonable price their output would be appreciably augmented.

THE COTTON BELT.

The cotton belt in central Asia comprises the area between the Persian and Afghanistan boundaries, 43 degrees northern latitude, and 28 and 43 degrees eastern longitude, excluding the mountainous parts of this country. The belt lies in the plains of this area and is strictly limited to parts which can be made accessible to irrigation. A rough estimate of the area under cultivation may be put at 945,000 acres. The larger part of these, namely, about 540,000 acres, lie in the valley of Ferghana, which produces from one-half to three-fourths the entire Russian crop. Ferghana represents an oblong valley, closed in on all sides by high mountains, which only at the western end leave a comparatively small passage connecting it with the rest of the central Asian plain.

The climate in the cotton belt is dry and continental, with high summer temperatures, mild winters, and with hardly any rainfall during the crop-making months. For this reason all field work is entirely dependent on irrigation. According to meteorological statistics, the annual fall of atmospheric moisture in Ferghana amounts to 7.6 inches, in Syr Daria to 6.1 inches, and in Samarkand to 16.6 inches, while evaporation in the shade has been estimated at 39.37, 49.2, and 34.6 inches, respectively.

During the months of June, July, and August the thermometer averages 124° F., and in the autumn ranges along 90° F., though frosts sometimes appear in September, having a destructive effect upon the ungarnered crops. The climatic changes are extreme, while the rains can not be depended upon; all these elemental disturbances and inequalities combine to make the region a hazardous one in which to pursue this branch of agriculture.

In order to increase the production irrigation is absolutely required, but for the present the Government will hardly undertake

any new projects. Of course, the planter is unable to do anything in that line because of the magnitude of the undertaking.

The country derives its water supply from a number of rivers, among which the Syr Daria, Amu Daria, Serafshan, and Murgab are the most important, and partly from numerous brooklets passing from the mountain glaciers. It is thought that the big rivers carry enough water to double the area under irrigation.

Mill owners have been interested in the proposition to irrigate about 1,000,000 acres at Amu Daria, Syr Daria, Serafshan, and Murgab, but so far no definite procedure has been settled upon. Small plantations have been watered by the Tegned River, but for the greater part of the year there is not a sufficient stream; during the dry season the river is completely evaporated by the intense heat.

PEOPLE AND LABOR CONDITIONS.

The people living in the cotton belt of central Asia represent a conglomerate of all the races and nations that in ages past have inhabited these regions, from pure Aryans to full-fledged Mongols. They all adhere to the Mohammedan faith and speak various dialects of the Tartar-Sart-Bokhara language, except in the southwestern part, where the influence of the Persian language is felt. They are an industrious, peaceful people, with a past as highly cultured as time and place and other influences would admit. To illustrate this one need only point out the remnants of wonderful architecture in Samarkand and other places or the still more wonderful system of irrigation planned, laid out and executed in far bygone days, which, for the most part, now exists and works effectively.

The people are skilled field laborers, especially the Sarts of Ferghana, and seem to have acquired by natural adaptation special talents for the duties most needed in the culture of their land, inasmuch as even the most ignorant are able to determine, with the aid of the simplest imaginable instruments, the suitableness of the soil for laying out the fields for irrigation.

The field work is mostly done by the farmer and his family, sometimes with the aid of hired help who live with the family. It is difficult to precisely give wages in this case, but they are very small. When the hired help supplies his own food and lodging, wages during the planting, chopping, and picking seasons may run up to and average about 40 to 52 cents per day. The scale varies each season, with a tendency to rise. During the crop season there is generally an influx of Chinese labor from Kashgar into eastern Ferghana. There is no actually developed labor system from which it would be possible to gauge the proportion of male, female, and child labor.

From 10 to 12 hours is considered a day's work. Everything is done by hand, modern machinery not having, as yet, been introduced. The soil, for the most part, is turned up by the use of picks and hoes, but in some parts the primitive wooden plow is brought into use.

FARMS AND CULTIVATION.

The land is mostly held by small owners who work it themselves. Where larger lots are owned it is let to planters for a share of the crop, generally one-half. The money-rent system is rarely used. The landowner generally supplies his arendator with the necessary stocks

and seeds till harvest season, when they are paid for out of the planter's share.

For cultivation the land is prepared by loosening the hard winter soil with hacks (picks), manuring it with compost or earth from old walls, and laying it out in zigzag rows, with canals between for irrigation purposes. Artificial fertilizers are little known and seldom used for this purpose. The seeds are sown in holes made in the soil, 20 to 30 seeds to the hole, and covered with earth or manure. Such abundance of seed is used because of their great mortality and in order to enable the little plants to break through the soil, which hardens again after the watering that immediately follows the planting. The plants appear in about 10 days. The weaker ones are eradicated, leaving only two or three plants to each stand. The field is chopped (cultivated) during the season twice or thrice and irrigated four or five times, as may seem necessary.

PLANTING, HARVESTING, AND SEEDS.

Planting commences in March or April and is finished, with replanting where the first failed, by the middle of May. The crop is ready by the beginning of September, when picking begins. The yield per dessiatine (2.7 acres) varies; a fair average may be put at 2,160 to 2,700 pounds, yielding about 722 to 900 pounds of ginned cotton.

Selection of seed is scarcely practiced, the seeds for planting being taken as they come from the ginneries. For this reason, and perhaps for other natural causes, there seems to be a constant deterioration in the quality of the staple, apart from the damage caused by hybridization of the plants, in places where the home seed and the American seed varieties are grown in close neighborhood. This may make it necessary in time to import fresh planting material. The seeds for the greater part of the cotton belt have in years past been supplied by the United States, though some seed was received from Egypt; but there is a decided diminution in the yearly output. There can be no discussion on this subject, for it is proven definitely throughout the entire Asiatic region that the seeds are not only growing smaller, but the quality of the fiber is deteriorating and the quantity becoming less.

Formerly the lint yield was 10¾ to 12 pounds from 36 pounds of seed cotton; this season it dropped to 10½ pounds at Ferghana, where the quality and quantity hitherto have been satisfactory; in the other Trans-Caspian provinces they have never succeeded in getting more than 10½ pounds from 36 pounds of seed, while in the domains of the Murgabs in 1909, 10 pounds was the maximum.

There is no standard from year to year, as in the United States. This in itself is prejudicial to the extension of cotton growing in Asia. The buyers demand samples, and this places the planters in an awkward position, as the samples change each season.

The fiber in Ferghana and Khiva was quite good last season, but every year it grows smaller, due to the fact that new seed is not supplied and is gradually "running out." The luster is also not so high as formerly, showing that the seeds must be renewed. The best American seed is now obtained from Khiva, but even with the most

optimistic suggestions it can not be debated that the seed is on the wane, and that under present conditions the yearly crop has reached its maximum.

COST OF CULTIVATION, PRICES, PESTS, GINNING, ETC.

The average cost per pood (36 pounds) per acre to the planter in the cultivation, picking, and marketing of his crop is $1. The prices vary according to the business barometer in the United States and Europe. It started at $6.50 per 36 pounds in 1909, but through the speculations of American brokers reached $8.15. This is the field price, but transportation charges to Moscow and other textile centers in Russia amount to 57 cents per 36 pounds, and for transportation and other expenses, to $1.10.

The hot, dry winds, which in the late summer and in the autumn often blow from the west, have damaging influence. During the last year locusts wrought much damage, spreading as far as Ferghana, which formerly was nearly free from this pest. This season they have deposited their eggs in enormous quantities on the inaccessible mountain sides, and if meteorological influences do not destroy them or they are not combated energetically in the early spring they may cause considerable damage next season.

Ginning and baling is done in the same way as in the United States, but better, the covering being much superior, consisting of a heavy jute wrapper, held in place by four wires, and offering good protection to the cotton. The size of the bale is about 40¼ by 28 by 22¾ inches, and averages, approximately, 300 pounds. Of late efforts are being made to compress the bales to a greater density.

Formerly screw presses were used, but now hydraulic inventions have been introduced, with the result that where under the old system only 16,792 pounds could be gotten in a railway car, it is now possible to arrange for 21,600 pounds. In the whole of Russian Asia only one American press may be found; few English presses have been put up, while the remainder are of Russian make.

The Asiatic cotton is exceedingly dirty, due to the dryness of the climate. When the winds sweep through the fields dust is carried to the growing cotton and completely fills the fiber, so that when it is ready for market about 15 per cent of the bale is composed of dirt and other débris. So far neither the growers nor the manufacturers have found means of eliminating the dirt, and as a consequence the latter are not partial to the Asiatic-grown product.

SPECIALIZING—DISPOSAL OF CROP.

In 1886 the Russian Government sent Mr. Kazel-Paklewsky to the cotton districts of the United States to study the methods of American planters and to gain knowledge through practical means. He returned in 1890 with an American expert, who remained two years. During the latter's stay in the Asiatic cotton fields he endeavored to introduce modern ways for preparing the ground for the reception of the seeds and later for its cultivation, but being without the proper facilities he returned to the United States without having accomplished any satisfactory results.

It is impossible to give any figures for cost of bales and profit per acre, as these vary constantly and depend on changes in market con-

ditions as well as price of labor and varying yields. The greatest part of the crop is disposed of to the mills in the Moscow and Lodz districts; some also go to St. Petersburg. Purchases in Asia by the big Moscow and Lodz firms are mostly made in seed cotton, which is ginned and baled at the ginneries owned or rented by the companies, who also supply the growers with cash advances on the crop at the various stages of its growth. This system, it is claimed, has many flaws, the chief of which are the risk it entails for the buyers and the costliness it imposes on the farmers; but, lacking ameliorative credits, it has developed into a necessary evil for the country, which can not get along without some kind or other of a credit system by the aid of which it can raise its crops. A smaller part of cotton purchases is made direct from ginners, in which case the bales are sampled in the usual way.

Grading is done on a different system from the American, the staple being classed into sorts according to color and classes according to cleanness. The greater part of the crop, from 60 to 75 per cent, consists of first sort white cotton, the remainder comprises weather-touched cotton, with a smaller or greater amount of spots, color, and dead fiber. The cotton is pressed at the ginnery by hand or steam.

TRANSPORTATION—OUTLOOK FOR ENLARGED AREA.

Cotton is shipped to European Russia by rail. The duration of transport since the completion of the line via Orenburg and Tashkent has been reduced to about one month. Most of the cotton ginneries are situated along the line, except the Namangan district, whence transport to the stations is made on camel back, each camel being able to carry two bales of a total weight not much above 578 pounds; from Khiva the cotton is carried on boats to the line, being about one month in transit. The cost of transportation from Central Asia to Moscow, including interest and expenses and difference between gross weight purchase and net weight sale, amounts to approximately $1.10 per 36 pounds.

As regards the possibilties of further extension of the cotton-growing area, it seems to be entirely dependent upon the further development of the irrigation system. Cotton growing impoverishes the soil rapidly, and it is therefore necessary to keep a certain rotation in field crops. Even with the present imperfect rotation system, in which all the preference is given to cotton, the utmost limits of fertile lands available for cotton culture seem to be reached. Comparatively little has been done in this respect, so far only one smaller system having been built out in the Gobi desert. Concrete and large projects for new irrigation work do not seem to exist; a recent expedition to the southwestern part of the belt with the object of exploring new lands for irrigation has met with adverse results. It has been proposed to put a tax of 26 cents per 36 pounds on all Russian cotton, the proceeds of which are to be utilized for the development of cotton culture and extension of the irrigation system, but so far this scheme has not taken a concrete form.

Russian manufacturers are being driven to resort to many means in order to supply the raw cotton for their mills at living prices, and if the gambling continues in the United States, as in 1909, they say

without qualification, that they will organize for the purpose of promoting some gigantic scheme of irrigation which, in time, will make them independent of American cotton growers, and when that period arrives they positively affirm that they will refuse to purchase American cotton at any price. They are fully cognizant of the situation, and because of the undesirable predicaments in which they have so often been placed, especially during the past year by the abnormal conditions forced upon the American market by speculators, their hostility toward American methods is not of momentary duration, and they will strain every nerve to divorce themselves from American connections for all time to come.

COTTON-SEED PRODUCTS.

The first mill for the production of cotton-seed products was erected at Kata-Kurgan in 1892, consisting of two presses. In 1895 two mills of two presses each were built at Namangan; in 1902 a third mill was put up in Fletchenko, of four presses. At present there are 28 mills in active operation in Asia, the largest at Bairam-Ali, operates four presses and consumes 180,560 pounds of seed per day. The second largest is at Fletchenko, erected by a Moscow party, running five presses, with a yearly consumption of 54,168,000 pounds of seed. In Andijan, Namangan, and Chust there are three mills, consuming 144,448,000 pounds of seed per year. The aggregate consumed by all the mills in Russia is in the neighborhood of 433,344,000 pounds of seed per year. This does not include the mill at Nijni-Novgorod, which requires 72,224,000 pounds. As the annual production of seed is not more than 866,668,000 pounds, and as the best quality is sold to the mill owners, there is left but 427,120,000 pounds of seed of very poor quality for the farmer with which to plant in 1910. It is therefore apparent that without new seed from the United States the planters can not get along, nor can they keep up a standard as in the United States.

Egyptian seeds have been tried a number of times, but with little satisfaction, as the cost was greater than the American products and the results were poor, mixing with the domestic cotton and producing a poor hybrid.

From the seed there is produced 15 per cent oil, 38 per cent oil cake, and 1½ per cent linter, the remainder being shell, which is utilized for fuel.

The price of seed is 26 cents per 36 pounds. Oil sold in 1909 at $2.32 per 36 pounds, which was considered an abnormally high price for the Russian product. Oil cake is disposed of at 21 cents per 36 pounds, while linter brings from $4.12 to $5.15, a most satisfactory figure to the manufacturers. The Russian oil cake is shipped mainly to Hamburg, where it is utilized as food for animals.

The Moscow prices for oil range from $3.35 to $3.50 per 36 pounds. This is due partly to the bad crop of sunflower seeds, the prices having formerly been from $1.55 to $3.35 in the Caucasus. In addition to its use for edible purposes, the oil is also used in canned goods, such as fish, for technical purposes, in the manufacture of soap and candles, and for sizing in the cotton and woolen mills.

PINEAPPLE CULTURE IN PORTO RICO.

PROFITABLE OPERATIONS IN SUPPLYING MARKETS OF UNITED STATES.

Writing from San Juan, Special Agent John M. Turner says that shortly after American occupation of the island of Porto Rico the cultivation of citrus fruits and pineapples was commenced by the American residents. Its development into an extensive business is shown in his report on the subject:

The island seems particularly adapted to fruit growing, as there is a total absence of frost; the north coast of the island has ample rainfall, and the fruit when grown is within easy reach of a large consuming public. The growing of pineapples was undertaken with much vigor as it offered quicker returns, and those having citrus groves were enabled to develop them while living off the returns of the pineapples. Oranges and grape fruit do not give returns of moment before the fifth year after planting, while pineapples will give returns in 10 to 14 months.

The native pineapple, known as the "Pan de Asucre," is a very delicious fruit, but so delicate that it will not stand shipping, so the growers gave their attention to three varieties, the "Smooth Cayenne," the "Cabezona," and the "Red Spanish." The former would not bear transportation, and its growth has been practically abandoned; the "Cabezona" is grown sparingly, but the "Red Spanish" is being forced as offering the largest yield, the best flavor, and hardiest plant, with fruit of inviting size to buyers.

The "Cabezona" grows to very large size, fruit weighing 12 pounds not being unusual, "apples" of this size having been shipped to the United States and arrived in good condition. There are growers enjoying excellent returns from their "Cabezona" cultivation, but the fruit has to be handled so carefully to prevent bruising that the expense per acre is increased, yet the returns from the fruit exported show enormous profits. Growers have assured me that a net profit in a good year from an acre of "Cabezonas" is not less than $1,600. The fruit of this variety sells for about 50 cents each in Northern markets, but as buyers at this price are so scarce growers have felt it more to their interest to cultivate fruit of a size that will extend the trade and reach a larger number of consumers, the argument being that out of 100 possible buyers of pineapples 90 can afford to pay 10 cents each for the "Red Spanish," while only 10 can afford the more expensive variety.

SUPPLY OF SLIPS—LARGE ACREAGE—CANNERIES NEEDED.

The pineapple is grown from slips, and these were imported from Florida and Cuba during the development of the industry, but for the past few years the importation of slips has stopped, the local growers having supplied the demand. The price of slips was for several years $15 per 1,000, and as each plant produced from two to six slips, the returns were very large from one acre of pines.

The returns were so large that many of the insular government officeholders were attracted to the business and small plantations were bought and developed while the owners attended to their official duties, and many cases are cited where the growing of pineapples offered so much more favorable returns than the holding of

official positions that the latter were abandoned and the agricultural occupation taken up as a business. Very good returns have been made in many cases, and many families have become independent through their success in fruit culture.

The total acreage on the north shore of the island exceeds 2,000 at this writing (March 25, 1910) and it is being rapidly extended. Lands have increased in value, doubled in some cases, quadrupled in others, yet it is predicted by those claiming to know that the acreage devoted to pineapples will shortly exceed 10,000.

It is very apparent, upon looking into the situation, that any such extension of the pineapple business, as is contemplated, can only be successful if canneries are introduced. At this writing the demand for green fruit in New York and surrounding markets has been so great that a cannery proposition has not been properly supported, but as the business grows it becomes more apparent that great opportunities are offered for good and well-financed canneries.

The centers of growth are so divided that many canneries will be required, it being out of the question to pay freight to the local railroad on green pines going to the cannery. Growers have told me they would be willing to contract their pines for a period of years at $15 per ton, but they were careful to add that the cannery must be located near their plantation, so as to avoid expense.

GROWERS' ORGANIZATION—RESULTS PER ACRE.

The fruit growers have organized an association, known as the Porto Rico Horticultural Association, and they have found it very helpful to them in many ways. They are also trying to form their own selling corporation, separate from the other. The secretary of the association assured me that correspondence relating to canneries or lands would receive his undivided attention, and prospective investors would be given the fullest information without cost. The meetings of the association are well attended, and it is organized on broad lines, with the good of the industry at heart, has no land or other property for sale, and is really a bureau of information. When tourist steamers arrive in San Juan, the association undertakes to distribute fruits and Porto Rican coffee without cost to the tourists, purely for advertising purposes, for the good of all.

The growing of pineapples is an industry so new that statistics are not available, but I have been able to obtain reports from some growers, in different sections, which I am glad to submit. It is quite possible that more favorable reports can be obtained, but the intention is to select those reports which are nearer the average than to get extremes.

From the Rio Piedras district, within, say, 10 miles of San Juan, the following returns from one acre were obtained: Expenses—One acre of land, $150; plowing and preparing same, $15; 8,000 slips at $5 per 1,000, $40; planting same, $7; fertilizer, one ton, $40; cultivation to fruit, $40; picking, packing 200 crates, $24; paper, crates, and nails, $46; hauling to San Juan, $10; freight to New York, $62; total, $434. Returns—200 crates pines at $2, $400; 16,000 slips at $3 per 1,000, $48; plants remaining on land, $47; value of land the same, $150; total, $645, which leaves a net profit per acre of $211.

As a matter of fact, the field from which this report was taken did not yield as fully as it should have done, it being usual to expect a

yield of 90 per cent on well-cultivated fields; but the grower of whom I obtained the figures insisted that it was an average acre, with some showing better and some showing poorer.

RETURNS IN PUEBLO VIEJO AND LAGUNA DISTRICTS.

The next figures submitted are taken from Pueblo Viejo, probably the oldest settled part of the island, across the bay from San Juan, and with advantages and disadvantages not possessed by the former district, and it will be noted the yield per acre is somewhat better. This may be accounted for by the lower cost of labor, say, one grower paying 40 cents per day, the other paying 50, proximity to urban employment making the difference; and again this man claims his land is more valuable the second year than the first, owing to the cultivation and unconsumed fertilizer, which will benefit the next crop; and again it will be noted this man had 10,000 slips to the acre and 300 crates to report, while the former had only 8,000 slips to the acre and 200 crates of fruit to sell, and he reports a net return of $2 per crate while the following shows only $1.60 as being the net returns, possibly because the fruit was smaller.

Expenses—One acre of land, $80; clearing and preparing, $20; 10,000 slips, $40; planting, $12; cultivating, $25; one ton fertilizer, $40; pick, pack, wrap 300 crates, $24; cases, paper, nails, $72; hauling to steamer, $21; freight to New York, $93; total $427. Returns—300 crates at $1.60, $480; 20,000 slips at $4, $80; value of plants in ground, $50; value acre of land, $100; total $710; which leaves a net profit per acre of $283.

From the Laguna district, near San Juan, but offering both land and water transport for the fruit, I get the following figures: Expenses—One acre of land, $125; clearing and preparing, $30; 10,000 slips cost, $40; planting same, $15; cultivation to crop, $30; fertilizer, one ton, $45; pick, pack, etc., 300 crates, $24; paper, crates, nails, etc., $60; transport to steamer, $30; freight to New York, $93; total $492. Returns—300 crates, at $1.60, $480; 18,000 slips, at $3, $54; value of plants in ground, $45; value of acre of land, $150; total, $729; leaving a credit balance per acre of $237.

FIGURES FROM THE BAYAMON DISTRICT.

A grower in the Bayamon district, near San Juan, who has kept an accurate account of his results as well as his expenses, presents figures quite favorable to the industry and gives evidence of the value of fertilization. His record per acre is as follows:

Expenses.—Plowing twice, disking, ditching with hoes, and planting in 5-row beds, $20; hoeing eleven times, six weeks apart, $55; fertilizing, January, 1½ ounces, June, 3 ounces, October, 2 ounces, February, 2 ounces, or a total of 8½ ounces per plant, at $40 per ton, $106.24; interest on land value, eighteen months at 8 per cent, $12; depreciation of cattle, plows, implements, $4; interest on same, $2.40; total, $199.64.

Returns.—Four hundred and eighty-six crates of pines (10,000 in all) at an average price of $1.44 per crate, less 30 cents for boxing, picking, packing, and hauling, or $1.14 net per crate, $554.04, making the net profit per acre $354.40.

In this report the grower estimated the value of his land as the same after the crop as before, he not counting the cost of his slips or

estimating the value of the excess slips that he could sell. It is quite possible this would increase the net earnings per acre by $50, making the net return to the grower $400 per acre per year. This grower used more fertilizer and cultivated more frequently at more expense than any other grower whose reports have come to my notice, and he shows by far the largest net returns. He assured me that the loss by decay in transit had been very light, frequently not over 2 per cent.

BRAZILIAN PLANT STUDY.

GOVERNMENT AID FOR AGRICULTURE AND FRUIT GROWING.

Vice-Consul-General Joseph J. Slechta, of Rio de Janeiro, furnishes the following information concerning government assistance for the propagation of textile fiber plants and the improvement of fruit trees throughout the Republic:

By a recent reorganization of the Brazilian National Museum special attention will be given to the study of fiber plants, insects harmful or beneficial to agriculture, plant diseases caused by vegetable parasites, etc. The results should be far-reaching, as many vegetable products growing in profusion in the country, especially fiber plants, have no commercial value because of lack of knowledge as to their adaptability to industrial uses.

The Government has resolved to have the directors of the famous botanical gardens of Rio de Janeiro assume some functions delegated to them by the ministry of agriculture in the nature of experimental station work. A department is to be maintained for the study of plants and trees for commercial purposes.

In the growing of fruits, to which special attention is to be devoted, experiments in producing new varieties of native fruits will be undertaken for the purpose of producing hardier products which will be suitable for export and transportation to distant countries. Those in charge of the experimental station will receive boys of from 12 to 20 years of age as apprentices to whom a small stipend may be paid. Apprentices giving satisfactory service and evidence of special adaptibility to the work will be given opportunity for advancement, and will be recommended to agriculturists who wish to employ experienced horticulturists on their own account.

A thorough study of fruits commonly raised in Brazil, carried on along scientific lines, would doubtless mean much to the fruit industry of the country. Most fruits grown here now are either not cultivated at all or if real cultivation is resorted to in either case the fruit is much the same as that growing in a wild state.

Grapes are cultivated in various States on a larger scale than is any other fruit, but the methods used and the means of transportation are so costly that the home-grown grape is scarcely able to compete with Spanish and Portuguese fruit of a similar quality. Oranges, with the same care given to the fruit in California, could be grown here at a much lower price than in the United States, and if properly packed and refrigerated could be shipped in large quantities to the United States and to Europe. The insistent attention which the Brazilian Government is giving to these matters must certainly result in a great improvement in conditions as they now exist in fruit growing.

LINSEED-OIL TRADE.

BRAZIL.

GREAT BRITAIN DOMINATES—OUTLOOK FOR UNITED STATES.

Vice-Consul-General J. J. Slechta, of Rio de Janeiro, writes that the linseed-oil imports of Brazil come almost wholly from Great Britain. As to the possibility of American sales he says:

The trade is largely a matter of price. The product is handled here altogether through commission houses, and one of the largest importers, who has fully as much business in American as in British goods, and buys large quantities of American illuminating and lubricating oils, buys linseed oil only from Great Britain. This would seem to indicate that the market in the United States does not offer the article at an advantage equal to that obtaining in Great Britain. It is quite possible, however, that the correspondents of this and other commission houses in New York have not quoted prices on linseed oil for export in quantities.

The wholesale price of linseed oil on this market is at this time about $10.25 per drum of 112 pounds for the raw product. Prices on refined oil or boiled linseed are not quoted in the wholesale market. The duties on linseed oil are as follows per pound: Raw, 3.6 cents; boiled, 5.4 cents; refined, 10½ cents.

The imports of linseed oil into Brazil in 1909 were as follows: From Great Britain, $410,560; Germany $31,547; United States, $5,082; all other countries, $9,163; total imports, $456,352.

COSTA RICA.

IMPORTS AND WHENCE IMPORTED.

Consul Samuel T. Lee, of San Jose, furnishes the following statistics covering the linseed-oil trade of Costa Rica:

The imports of linseed oil, of which five-sevenths was boiled, during the calendar year 1908 were as follows: From the United States, $2,428; United Kingdom, $3,134; Germany, $2,888; total, $8,450.

The oil comes from the United Kingdom in wooden barrels and in steel tanks. The steel tanks contain 110 imperial gallons. From Germany the oil comes in steel tanks holding 4½ to 9 gallons. The dealers here prefer the steel tanks, on account of leakage in wood barrels.

One of the dealers here says that he buys the English oil at the following rates per gallon: Raw, 46 cents; boiled, first grade, 46½ cents; boiled oil, superior grade, 51½ cents. With these prices were 6 months' credit. German prices are as follows per gallon: Superior boiled oil 47.6 cents, and 6 months' credit. While many business houses ask for time, there are others who are ready to take advantage of cash discounts, and cash prices appeal to the heavier dealers.

There is a duty of 7.8 cents per kilo (2.2 pounds) on both raw and boiled oil, to which is added a surtax of 2 per cent of the duty for the support of the consular service of Costa Rica. Duties are assessed by gross weight, and proper packing thus becomes an important item. The goods must not only reach the buyer in good condition, but they must be shipped in the lightest packing possible.

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ENGLAND.

SEED SCARCITY CAUSES STEADILY RISING PRICE OF OIL.

Consul W. C. Hamm, of Hull, says that the scarcity of linseed, resulting from a partial failure of the crop in India and Argentina, has been followed by a persistent rise in the price of linseed oil. Concerning this British trade situation, he writes under date of April 16:

Yesterday the record price of $197 per ton was reached in London. This is about 100 per cent higher than the same oil sold in London one year ago, and about $20 a ton higher than the highest price recorded in 1900 when there was a greater scarcity of the seed than last year. Yesterday linseed oil sold in Hull for $192 for "spot," and April, compared with $114 the highest price in April last year.

The following figures gives the quantity of linseed in quarters of 480 pounds each, received in Hull during each of the past ten years:

In 1909, 675,370; 1908, 848,758; 1907, 809,974; 1906, 579,957; 1905, 812,329; 1904, 1,215,122; 1903, 924,628; 1902, 774,979; 1901, 732,566; and in 1900, 572,106.

The crop to be delivered this year from India and Argentina, it is expected, will be as small as that of last year and there is a probability of the receipts falling below 1909. It is not at all probable that the price of linseed oil during the present year will be lower than at present, and it may increase somewhat. During 1909 linseed oil to the value of $3,140 was shipped from Hull to the United States.

An English color trade journal comments on how the rise in price of linseed oil greatly affects the price of paints, of which Hull is a large producer. American turpentine has also advanced 30 per cent and is selling at $10.35, against $7.50 per hundredweight a year ago. The exports of painters' colors and materials from Hull in 1908 aggregated 168,343 hundredweight, valued at $907,602.

CANADIAN AGRICULTURAL RETURNS.

INCREASE IN THE OUTPUT OF CROPS DURING THE PAST YEAR.

Consul A. G. Seyfert, of Owen Sound, furnishes the following statistics covering the crop returns of Canada for the year 1909:

The value of all crops in the Dominion for 1909, according to official final estimates, was $532,992,100, an increase as compared with 1908 of $100,458,100. The area under cultivation in 1909 was 30,065,556 acres. Wheat heads the list, with an output of 166,744,000 bushels, valued at $141,320,000 (spring sown, $125,478,000, and fall sown, $15,842,000); hay following wheat with an estimated yield of 11,877,100 tons, valued at $132,287,700. The value of the other crops is given as follows: Oats, $122,390,000; potatoes, $36,399,000; barley, $25,434,000; turnips and other root crops, $18,197,500; fodder corn, $15,115,000; husking corn, $12,760,000; mixed grains, $10,916,000; peas, $7,222,000; buckwheat, $4,554,000; flax, $2,761,000; beans, $1,881,000; rye, $1,254,000; sugar beets, $500,000.

The value of the crops by provinces was as follows, except for British Columbia, exact figures therefor not being available: Ontario, $200,398,000; Saskatchewan, $97,677,500; Quebec, $90,071,000; Manitoba, $74,420,500; Nova Scotia, $22,319,300; Alberta, $20,741,000; New Brunswick, $18,150,900; Prince Edward Island, $9,213,900.

MEXICAN CHICK PEAS.

INCREASING GROWTH AND EXPORTATION FROM SONORA.

Consul Alexander V. Dye, of Nogales, responding to a Chicago inquiry, says that the production of garbanzos, or chick peas, in the Mexican State of Sonora has increased steadily for six or seven years, especially in the southern part. The consul's trade details follow:

During the shipping season of 1909—May to November, inclusive—there passed through the port of Nogales 206,871 bushels, valued at $340,549. Although shipments to the United States are increasing, the greater part of the crop does not pass through this port, but goes by water to New York and to other foreign countries, principally to Spain, Cuba, Porto Rico, and South America.

The former crude and wasteful processes of harvesting and thrashing have ceased, owing to the introduction of machinery manufactured especially for this purpose in the United States. When cleaned, the garbanzos are graded by machinery at the buyers' warehouse into three or four different sizes. Usually only two sizes are exported. The first are of a size that 54 peas weigh 30 grams (1.058 ounces); the second size includes 65 peas in 30 grams. Seed peas run 48 to 50 peas per 30 grams. What is called a good crop will average 85 per cent first-grade garbanzos, 10 per cent second-grade, and the remaining 5 per cent is used for food for stock.

I believe the garbanzo could be profitably raised in parts of the United States, where the straw and low-grade peas could be utilized for stock food. [A list of the principal dealers and shippers of garbanzos in Sonora may be obtained from the Bureau of Manufactures.]

FARM IMPLEMENTS IN CANADA.

IMPORTS MOSTLY FROM UNITED STATES—LARGE EXPORTS.

Consul Frank Deedmeyer, of Charlottetown, gives statistics showing that the imports by Canada of agricultural implements continue to be small.

The imports were valued at $1,593,914 in 1905, $1,615,123 in 1906, $1,845,648 in 1907, $1,749,390 in 1908, and $1,614,635 in 1909. In the same years the exports by Canada of agricultural implements were, respectively, $2,342,826, $2,499,104, $2,497,882, $3,368,808, and $3,625,178. The industry in Canada is largely controlled by American capital. Of the imports in 1909 more than 90 per cent came from the United States. Of the larger items may be mentioned drills, at the value of $123,542; harrows, $61,220; self-binders, $129,965; mowing machines, $61,639; and plows, $463,565.

In the Province of Prince Edward Island agricultural implements are in general use. Owing to the productiveness of the soil and the steady rise in the price of field crops and animal products, farming is very remunerative, and the purchasing power of the farmers is high. All the principal American and Canadian manufacturers maintain agencies here. [Lists of dealers in agricultural implements in Canada and other foreign countries may be consulted at the Bureau of Manufactures.]

FIBER PLANTS IN TAMAULIPAS.

THE CULTIVATION OF COTTON, ZAPUPE, AND HENEQUEN.

Consul Clarence A. Miller, of Tampico, reports as follows concerning the growing of fiber plants in the State of Tamaulipas, Mexico:

A great deal of interest is being taken by the farmers near Columbus in the cultivation of cotton. Experiments have been made during the last two years the results of which have been so favorable that plans have been made to grow cotton on a large scale. A Cotton Planters Association has been formed at Columbus. Georgia seed has been ordered and it is proposed to plant about 1,000 acres or more in cotton during June and July. Arrangements have been made with a firm in Laredo, Tex., to install the equipment for a first-class cotton gin. The planters are hopeful that they will have no boll weevil to contend with, and they expect to raise about a bale per acre.

The cultivation of the zapupe fiber plant is receiving most attention in the Tampico section. Within the last three years several companies have been formed for the cultivation of zapupe near Tampico and in addition a number of individuals are engaged in planting the fiber. It is claimed that zapupe matures more quickly and that it produces more fiber to the plant than henequen. It is also claimed that by planting one-year-old plants zapupe matures or comes into the productive period in two years, while about four or four and one-half years are necessary for henequen to mature. It is also claimed that zapupe in production will yield 2½ to 5 pounds of fiber per plant, according to the amount of cultivation, while henequen will only yield about 1 pound per plant. By care and cultivation some of these parties hope to clear about $125 gold per acre after the second year. This industry, however, is still in its experimental stage.

In Victoria and vicinity, about 100 miles north of Tampico, henequen growing is receiving much attention. Land not fit for any other kind of cultivation seems to be well adapted for henequen, and many Americans are entering this district and setting out a number of acres in this plant. It has been reported here that an American syndicate has just set out about 300,000 young henequen plants on a ranch near Arguelles. Although henequen has been planted by individuals in this section at intervals for the last ten years, it must be said that this industry is also in the experimental stage.

While the zapupe and henequen industries are still in their experimental stages in Tamaulipas, it must be added that a considerable amount of fiber is being produced and exported from Tampico.

FOODSTUFFS.

MEAT PRICES.

GERMANY.

WHOLESALE AND RETAIL QUOTATIONS IN HANOVER.

Consul Robert J. Thompson, of Hanover, forwards a report on the German meat supply and prices in the Hanover market, which shows the wholesale prices for meat in that city during December, 1909, to have been as follows, per 50 kilos (110 pounds):

Meat.	First quality.	Second quality.	Third quality.
Beef:			
Steers	$16.42 to $17.85	$15.70 to $17.13	$15.00 to $17.13
Cows	16.18 to 17.61	15.23 to 16.89	13.09 to 15.70
Bulls	15.00 to 16.42	14.28 to 15.70	13.09 to 15.00
Veal	21.42 to 24.59	17.85 to 23.32	14.28 to 20.23
Mutton	17.37 to 18.32	15.47 to 17.13	11.90 to 15.47
Pork	16.18 to 17.85	15.70 to 17.13	14.75 to 16.89

For first-quality meats the retail prices per kilo (2.2 pounds) were as follows: Beef, 40.46 cents; veal, 42.84 cents; mutton, 35.7 cents; pork, 38.08 cents. Second-quality beef cost 30.94 cents per kilo.

SPAIN.

CONTROLLING THE PRICE OF MEATS IN VALENCIA.

Consul Robert Frazer, jr., in transmitting the following statistics covering the trade in meat in Valencia, reports a steady increase in its consumption:

The animals slaughtered for the meat supply of the 216,000 inhabitants of Valencia in 1909 were as follows: Oxen, 10,655, weighing 4,772,073 pounds; sheep, 89,272, weighing 2,998,233 pounds; kids, 16,414, weighing 101,242 pounds; hogs, 15,974, weighing 3,185,912 pounds; total, 132,315, weighing 11,057,460 pounds.

The prices of the different classes of meat have not advanced much during the two years under review. The continual tendency of the butchers' association and combinations of butchers and cattle salesmen to increase prices is met by the municipal authorities establishing what are called "regulating butchers' stalls" at which first-class

beef and mutton are sold by the municipality at cost prices plus a moderate profit.

The present average retail prices of meat in the Valencia markets, in American currency, per kilo, of 2.2 pounds, are as follows: Beef, 54 cents; mutton, 36 cents; kidlings, 43 cents; fresh pork, 52 cents.

ENGLAND.

AMERICAN HOG SHORTAGE AND ALTERNATIVE SUPPLIES.

The following article from a Hull newspaper shows how high prices are endangering the market for American meats in England:

It seems very probable that the shortage of American hams and bacon from which the English market is now suffering will, in the future, be met by supplies from other quarters. The high prices sought by the packers and the consequent limited demand by the English consumer has, of course, seriously affected the provision trade. Already merchants are turning hopefully to such countries as Siberia and northern Russia. These countries have almost limitless tracts of territory and every facility for hog producing, and, only wanting good, cheap, and quick transit, are doing their best to jump into the breech; and, in the opinion of at least one leading authority, they will soon assume the position of a highly important factor in the food supply of the British Islands—a suggestion, by the way, which is not without peculiar interest to Hull as an importing center. The consignments from these countries and their high quality show that they have come to stay. The transit question is, however, for the present a serious one, as freights from some points in Russia reach nearly a sovereign ($4.8665) per hundredweight. As the trade increases this may be overcome, and freights better accommodate themselves. Both French and Chinese pork we have had already in Hull. Of the former we are to expect more. As to the Chinese article it seems that prejudice is against it, and that it must therefore find a market elsewhere.

CANADA.

FURTHER ADVANCES IN THE PRICE OF BEEF.

Consul Felix S. S. Johnson, of Kingston, under date of April 21, reports as follows concerning the beef market in Canada:

Within the past month there have been two advances of $1 per 100 pounds each in the price of beef. During the winter beef remained high, but now it is still higher, and liable to take another jump. The advance is 2 to 5 cents a pound. A retail butcher in Kingston remarks: "I don't know where it is going to end. We had all our hope pinned on beef to keep the prices of meat looking half respectable. Certainly it's not our fault; we could not sell it at the old prices any longer." This is about the way all the butchers look at the situation. Up to now, beef has been sold in large quantities, but there is a growing fear that people will refuse to buy it at present high prices.

URUGUAY.

INCREASED SHIPMENTS TO FOREIGN COUNTRIES.

Consul Frederic W. Goding writes from Montevideo that the amount of meat exported from Uruguay during the quarter ended March 31, compared to the same quarter in 1909, was as follows:

	1909.	1910.
Frozen mutton, carcasses	67,379	86,787
Frozen beef, quarters	35,448	47,347

ARGENTINE CHILLED BEEF.

SEVERAL NEW VESSELS ADDED TO CARRY IT TO GREAT BRITAIN.

From Buenos Aires Consul-General R. M. Bartleman reports that the Swift Beef Company and H. & W. Nelson, owners of the English Nelson Line, have signed a contract by which the latter agrees to convey 1,200 tons of chilled beef weekly from La Plata, Argentina, to Liverpool. Mr. Bartleman's letter, under date of February 24, continues:

Ten boats are to be put on this service, of which a 6,000-ton vessel is to start immediately, and the three under construction, of 10,000 tons each, as soon as launched. Six new vessels are to be built or purchased. Each of these steamers is to carry 3,400 tons of chilled or frozen meat, and is to make the run in twenty-two days. Should all these arrangements be carried out it is expected that the export of chilled beef from Argentina will increase by 100 per cent. All these new vessels will be fully equipped with excellent refrigerating machinery.

It has been stated that negotiations are nearly completed for a fortnightly service from La Plata to London of steamers carrying chilled beef, and it is extremely probable that such a line will be started within a year. The export trade of Argentina in preserved meats of all kinds is assuming larger and larger proportions, and affords good openings for the investment of American capital on a large scale.

MUNICIPAL MEAT SHOPS.

CHIHUAHUA ERECTS BUILDINGS TO INSURE SANITARY CONDITIONS.

Consul L. J. Keena, of Chihuahua, in a report on the municipal meat shops in that Mexican city says, that the enterprise was undertaken on the initiative of the jefe politico (mayor), following a report from the health board that many diseases were in a great part due to the lack of sanitary conditions in the shops. The consul states:

During 1909 the city completed and opened 20 sanitary meat shops, so located as to separate them from surrounding buildings by a distance great enough to insure good air and light on all sides. The shops are built of brick, one story high, and average 18 feet long by 12 feet deep inside. The floors are made of 8-inch square colored tile embedded in cement.

The equipment of each shop consists of a marble-topped counter, set of racks and hooks for hanging meat, white enameled washstand, and an electric fan. All windows are placed high in the wall and are barred and screened. The approximate cost per shop was $1,000 and the average monthly rental is $25. Several private individuals, convinced of the advantage of these shops, have built others identical in type and equipment, eight of which have already been opened to the public.

The slaughterhouses are subject to rigid inspection by municipal officers. Thirteen special wagons, owned by the city, are used to supply all meat shops. They are two-wheeled covered wagons with

closed back and front and are lined with galvanized sheet iron. The sanitary inspection of the meat shops is under the general charge of the health board, but the managers and inspectors of the slaughter-houses and meat shops must inform the mayor of any irregularities they may find.

APPLE EXPORTS FROM RUSSIA.

FRESH ATTEMPTS TO GAIN ENTRANCE TO THE LARGE ENGLISH MARKET.

The following from Consul John H. Grout, of Odessa, may prove of interest to the fruit industry in the United States:

Parts of the Crimea and Caucasus with a sunny climate are well suited for producing high-class fruit, considerable being raised. The development of the industry is hampered by the lack of irrigation, which renders the harvests uncertain, and by the small returns in years of excessive crops. To this end there have been some efforts to exploit foreign markets, principally England, for surplus fruit. A number of years ago an attempt was made from northern Russia to export to England the Antonovka apple, which succeeds well in northern and middle Russia, and is greatly appreciated for the table, making jams, etc. The experiment failed, as the fruit could not compete with that from other countries. A similar experiment has lately been made from the Crimea. The horticultural societies of Theodosia and Karasubagar sent a specialist to London with about six tons of the best-known Crimean apples hoping to bring them favorably to the notice of the consuming public. Again, the experiment was not a success financially. The saffron apples sold at $7.15 per hundredweight. The several varieties of the Sinapa sold at $4.30 to $5, and the Reinittes and Calvilles at $3.70, or lower than sold in the home market. Still it is intended to continue the experiment with the hope of quite different results, especially in such years when there is plenty of cheap fruit here.

FISH EXPORTS OF NORWAY.

LARGE SHIPMENTS TO UNITED STATES—MUSEUM PROPOSED.

Consul P. Emerson Taylor, of Stavanger, shows in the following report the activity of the Norwegian fishing industry:

The export of fish from this district for the week March 12–19 was almost equal to the total export of fish for the month of March one year ago, and is illustrative of the heavy increase in the export business of the district. The shipments for these eight days aggregated $64,675. The largest single shipment was a $12,820 invoice of canned fish to a New York firm, while a shipment to a Boston firm amounted to $9,175. The heaviest shipments of fish are of sardines and mackerel, but cod, herring, anchovies, fish balls, and many other varieties of canned and preserved fish are now forwarded in large quantities.

The large increase in the canning and preserving industry here has resulted in a movement for establishing a permanent museum in Stavanger for exhibiting all machinery used in the fish canning and preserving industry from the incipiency of the business until the present. Nothing definite has been done, but it is being discussed in the local newspapers and by a number of leading exporters.

FOOD IMPORTS OF CANADA.

EXTENSIVE FOREIGN PURCHASES OF GROCERIES AND COMESTIBLES.

Consul Frank Deedmeyer, of Charlottetown, has collated the following statistics showing the Canadian imports of groceries and confections:

Exclusive of fresh meats, grains, and fresh vegetables, Canada imported in the fiscal year 1909 provisions generally sold by grocers to the value of $29,739,930. Of this total there came from the United States $7,416,525 worth and from Great Britain $4,846,750. By eliminating coffee, tea, and sugar, raw and refined, which three items amount to $18,500,009, it appears that of the other articles aggregating $11,239,921, the United State sent over one-half, or $6,850,638 worth.

The imports of dairy products, eggs, and meats, dried, salted, and smoked, were as follows: Butter, $289,428; cheese, $130,076; eggs, $241,665; lard, $1,229,055; cottolene and animal stearin of all kinds, $86,913; bacon, hams, shoulders, and sides, $745,489; beef, salted in barrels, $123,096; canned meats, poultry, and game, $53,107; extracts of meats, not medicated, and soups of all kinds, $60,725; pork, barreled in brine, $891,384; dried or smoked meats and meats preserved in any other way than salted or pickled, $81,011; other meats salted, $61,393.

There is a good market in the Province of Prince Edward Island for canned fruits and vegetables, smoked and salted meats, crackers, biscuits, and breakfast foods.

The imports of sugar, confections, and sirups by Canada have grown from $6,452,364 in 1890 to $8,605,005 in 1900 and to $13,938,897 in the last fiscal year. Since 1890 the imports from the United States have declined, being $857,262 in 1890, $1,708,987 in 1900 and but $375,887 in 1909. The cheap and medium priced candies handled by the trade are of Canadian make.

In the Province of Prince Edward Island there is a market for American confections of the highest quality. These are sold mostly by druggists. Sugar and the cheaper candies are sold by grocers.

Olive Oil Yield in Turkey.

Consul-General E. L. Harris, of Smyrna, gives a résumé of the olive-oil trade in Turkey:

The average output of olive oil in all Turkey, including the islands, amounts to about 45,000 tons. The 1908–9 season yielded 22,500 tons. Prices fluctuated as follows: Oil for industrial purposes from $11.50 to $13.80 per cwt., in barrels, actual tare f. o. b., and that for edible purposes $14.80 to $19.50 per cwt., f. o. b. As a result of these high figures local consumption and industry have used olive oil much below the usual average. The 1909–10 season is estimated at about 45,000 tons. The United States is one of the most important consumers of the Turkish oil, but the amounts so far drawn (March 24, 1910) are small, on account of the Spanish oil being cheaper. Were olive trees more properly cared for here, especially during the gathering of the fruit, the crop of this article would no doubt be considerably larger, as the climate and soil favor these plantations.

Depressed Condition of Sultana Raisin Trade at Smyrna.

Owing to the yearly extension of vineyards in the Smyrna district of Asiatic Turkey, Consul-General E. L. Harris says that the average crop of Sultanas is now estimated at about 60,000 tons. The 1908–9 season yielded about 55,000 tons, of which only 52,000 tons have been exported—to Europe, America, and Australia—the remaining 3,000 having been stored up in the country for lack of buyers. Prices started at $4.09 to $7 per cwt. in boxes, and have gradually declined at the end of March to $2.68 to $4.60. The 1909–10 crop is estimated at about 50,000 tons. The heavy stocks of old fruit, especially in England, and the general depressed condition of the trade have caused low prices, with a continuous downward tendency. The local consumption of this product is insignificant. Unless measures are taken for improving the Sultana trade all around, the situation promises to become critical.

Smyrna Fig Crop All Sold.

In reporting on the fig crop of the Smyrna district of Turkey, Consul-General E. L. Harris says:

The average crop amounts to about 25,000 tons, and this quantity was exported in the 1908–9 season to nearly all parts of the world, the home consumption being insignificant. Prices were $4.50 to $7.50 per cwt., f. o. b., for layer figs, actual tare. The 1909–10 crop amounted to about 22,000 tons, contrary to previous estimates. The reasons that prices during the season ruled high and steadily advanced were the weakness of the crop, the small stocks in consuming markets, and the large contracts for goods to be shipped. At the end of March, 1910, not a fig can be found either in Smyrna or in the interior.

FOREST PRODUCTS.

THE TIMBER INDUSTRY.

RUSSIA.

THE FORESTS COVER NEARLY ONE BILLION ACRES.

Consul-General John H. Snodgrass, of Moscow, in a report on Russia's forests, says that that Empire occupies first place among the nations of the world in the extent of its timber resources, the value and quality of two-thirds of which are practically unknown. He continues:

The total area of the Russian Empire is 8,647,657 square miles, or about one-seventh of the entire land area of the globe, and 39 per cent of the surface of the Empire is under forests. Those in European Russia cover an area of 474,000,000 acres; Finland, 50,500,000; Poland, 6,700,000; Caucasus, 18,600,000; total, 549,800,000. In the Ural provinces forests cover 70 per cent of the area; in the northern provinces, 68 per cent; and in the four lake provinces, 57 per cent.

The Government owns 65 per cent of these forests, possessing in European Russia 285,598,941 acres; Caucasus, 12,826,387; Asiatic Russia, 360,519,435; Amur region, 288,742,000; total, 947,686,763. Twenty-three per cent of the forests belongs to the landed proprietors and 9 per cent to the peasantry.

It is estimated that in western Siberia alone there are 465,000,000 acres in virgin forest, and eastern Siberia, though not quite so rich in timber, has sufficient forests for the world's supply of lumber for years to come.

In European Russia the largest timber districts are in the north. The four Governments of Olonetz, Archangel, Vologda, and Viatka, comprising a total area of 650,000 square miles, a territory from which 17 States the size of Ohio might be formed, are almost entirely covered with timber, but the greater part has never been explored by civilized man, though expeditions are now being formed for the purpose of investigating the immense resources of the country.

YIELD OF STATE FORESTS—LUMBER INDUSTRY.

The state forests in 1907 yielded 1,286,560,000 cubic feet of lumber, the Department of Forestry realizing in round numbers for the sale of timber, rent of lands, etc., $31,500,000. The expenditures, including $800,000 for cutting trees and sawing logs, amounted to $6,500,000, thus leaving a profit to the State of $25,000,000. Thirty million dollars' worth of this timber was sold on the stump to dealers, and the larger part was exported in the form of logs, pit props, and in other semi-manufactured state. It is stated officially that the reafforestation of state lands provides for more than the amount cut from the forests each year.

The above figures do not include the timber lands owned by private parties in European Russia. They are divided as follows: Imperial appanages, 14,274,500 acres; private landowners, 151,072,000; peasants, 29,210,000; joint stock companies, factories, works, churches, etc., 6,853,500 acres; total, 201,392,000.

The Russian timber industry comprises 1,428 factories, sawmills, planing establishments, wooden-box factories, piano factories, etc., the number of hands employed being 80,000, and the value of the annual output $77,250,000. This industry is one of the greatest in the empire and offers many possibilities which should not be neglected by American manufacturers of requisite machinery. In 1908 Russia imported $85,490 worth of saw-mill and $279,645 worth of woodworking machinery.

Timber ranks second in Russia's exports, preceded only by grain. The exports in 1908 amounted to $57,086,720, against $55,351,685 in 1907 and $50,367,000 in 1906. Of the exports in 1908 the United Kingdom took $20,371,855; Germany, $18,764,540; Netherlands, $3,855,290; Belgium, $2,181,025; France, $1,808,165; other countries, $10,105,845. Boards and sleepers valued at $32,936,310 were the largest item of export.

The imports consist chiefly of alder, ash, aspen, beech, elm, larch, linden, maple, oak, and willow, and were valued at $5,327,675 in 1908, against $5,641,310 in 1907. The imports of bark of the cork tree were valued at $2,061,030 in 1908 and $2,469,490 in 1907.

[Names and addresses of the principal lumber merchants of Moscow are on file in the Bureau of Manufactures.]

ITALY.

CHIEF IMPORTS AT CATANIA FOR PACKING PURPOSES.

Vice-Consul F. W. Smith, of Catania, writes that considerable lumber is imported into that Sicilian port, the imports in 1909 aggregating 42,759 tons, valued at $749,781. He continues:

The principal sources of supply are Austria and the United States, the former shipping 36,046 tons and the latter 1,228 tons. Beech, spruce, pine, oak, pitch pine, satin walnut, and poplar are the principal kinds imported. American poplar and black walnut are greatly appreciated, but current prices—$23.16 per cubic meter for the former and $46.32 for the latter—are too high. A reduction in price would doubtless increase sales.

Much of the lumber imported is used for packing. Efforts are now being made to introduce from Russia lumber specially prepared for packing, consisting of the superposition of layers (very thin boards) of alternate fiber, strongly united. Most of the lumber sold is in lengths of 4 meters (meter=39.37 inches). The usual widths are 22, 25, 28, 30, 36, and 38 centimeters (centimeter=0.393 inch) and the thickness 2½ to 12 centimeters. Beams are 7 by 7, 8 by 8, and 9 by 9 centimeters. Present (March, 1910) prices of lumber at Catania per cubic meter (35.3 cubic feet) are as follows: Beech, $10.61 to $15.44; spruce, $11.58; poplar, $11.58; pine, $12.54; pitch pine $17.37; satin walnut, $23.16; oak, $25.09.

[List of lumber dealers in eastern Sicily and Calabria on file in Bureau of Manufactures.]

SPAIN.

UNITED STATES FURNISHES ONE-FIFTH OF IMPORTS.

Consul Edward J. Norton, of Malaga, in describing the timber trade of that port says it is carried on with the United States, Norway, Portugal, Sweden, and Finland, the imports from the United States amounting annually to about $50,000, or one-fifth of the total trade. He continues:

Purchases from the United States during 1909 were considerably in excess of this estimate, as large consignments of pine were ordered for transshipment to Melilla for the use of the army. American exporters secured this business by quoting lower prices than Norwegian and Finnish shippers. There seems little opportunity at present for increased trade with the United States in spruce or pine lumber. Imports consist of timber for bridge and railway construction, warehouse building, doors and sash, furniture, and wagon making. Local dealers are anxious to import Oregon cedar and red fir but freight rates on direct shipments from the Pacific coast are prohibitive.

No logs are imported, the demand being chiefly for lumber 6 by 9 inches, in 14-foot lengths. Boards, joists, scantling, pickets, and other dimension stuff are bought in usual commercial lengths and sizes. The three largest importers [names on file in Bureau of Manufactures] are owners of sawmills and do considerable custom work for contractors and woodworking establishments. On the whole, no complaint is made regarding the quality of the lumber shipped from the United States. Terms are four months from date of shipment against bank guaranty or simple acceptance of drafts. It is useless to try to interest Malaga importers on less favorable terms.

OPENING FOR TRADE IN FRUIT BOXES.

Boxes and shooks used in Malaga for the export trade in raisins, almonds, and lemons are made of pine brought from the north of Spain and Portugal. About 1,000,000 boxes are required annually for packing raisins and almonds; shipments to the United States requiring 183,600 boxes in 1909. Empty wooden boxes, imported knocked down or set up, are free of duty when destined for reexportation containing Spanish products, and a number of fruit and nut shippers have been advised to investigate the cost of American boxes, taking into account that the latter are free of duty when returned to the United States filled with foreign products.

Raisin boxes (20 to 25 pounds capacity) now cost about 7 cents, gold, and almond boxes (28 pounds capacity) 9 cents, delivered and ready for packing. If American boxes can be laid down here at about the figures given above, local exporters [names of principal shippers on file in Bureau of Manufactures] might be induced to consolidate their orders and make a trial purchase from the United States. If American exporters decide to compete for this trade they should quote prices for boxes delivered at Malaga. The demand for boxes begins about August 1 and shipments are practically ended by December 31.

INCREASE IN THE STAVE TRADE.

The trade in staves has steadily increased during the past three years, the imports in 1908 amounting to 5,796,043 pounds, the United

States and the United Kingdom about dividing the trade. The stave trade of this coast was formerly controlled by an importer whose principal office is in Barcelona [name on file in the Bureau of Manufactures]. During the past year, however, two firms in Malaga established themselves on what seems a solid basis. Their stock comes from the United States. Prices have not been cut to any extent, but the market has been somewhat overstocked.

Staves imported into Malaga are required chiefly for the wine trade. White oak stock of the best quality is demanded. A small quantity of culls is used for heading. The trade in staves of spruce, pine, and other woods is very limited. Staves for the wine trade are used in the following sizes: XX prime pipes, 60 by 5 by 2 inches, and 56 by 4 by 1¼ inches. Flag staves run from 40 to 46 inches. The demand for barrel or keg staves, 36 to 40 inches, is light. Prices are quoted ranging from £40 to £90 ($195 to $438) on 60-inch pipes, per 1,200 c. i. f. Malaga, according to dryness, quality of grain, thickness, and weight of stock.

The stave stock imported consists of the usual roughly split segments of the log, these being resplit, trimmed, and cut to size in the barrel factories. A Malaga importer suggests that American shippers might find it worth while to forward a consignment of staves made up of squared and shaped stock, as the latter could be finished here at a low cost of labor, with comparatively little waste and a saving of customs duties. The import duty on staves made of oak, chestnut, or ordinary wood is 25 centimos per 100 kilos (approximately 4½ cents per 220 pounds).

[List of stave importers at Malaga and Almeria and manufacturing coopers at Malaga on file in Bureau of Manufactures.]

FRANCE.

REQUIREMENTS OF THE STAVE MARKET.

Consul-General A. Gaulin, of Marseilles, in a report on the stave trade in France, says that while there is an important market in that country for white-oak staves, no demand exists at the present time for foreign staves or heading made from spruce or fir. The consul-general adds:

The imports of staves into France during 1909 amounted to 159,772 metric tons, of which 148,412 tons were oak staves. Of the latter the United States furnished 102,542 tons, Russia 31,492 tons, Austria-Hungary 2,512 tons, and other countries 11,866 tons. Of staves other than oak, Austria-Hungary furnished 4,665 tons, and other countries 6,695 tons. The principal ports of entry were Cette, Bordeaux, Marseilles, St. Louis (Bouches-du-Rhone), Nantes, and Havre. Marseilles imported 10,148 tons of oak staves, of which 4,665 tons came from the United States, and 2,951 tons of other staves, none being of American origin. Most of the staves in the second group are beech, and are imported from Austria; a small quantity comes from Roumania.

For wines and other alcoholic beverages only oak staves are used, and the dimensions of these vary with the countries of production. American oak staves are 30, 36, 42, and 60 inches long, 4½ to 6 inches wide, and 1 to 1½ inches thick. The present (March, 1910) prices for the first three dimensions are $9.26, $10.23, and $14.28, respectively,

per hundred c. i. f. Marseilles. The length of French staves varies from 32 to 35 inches, and the headways are 19 to 26 inches long. "Assorted staves" comprise two-thirds staves and one-third heading. Beech staves are 34 to 38 inches long, 3.9 to 4.7 inches wide, and 0.47 to 0.7 inch thick, and they sell for $1.73 to $2.70 per hundred. Pine staves are used exclusively for slack cooperage, and the local production more than equals market requirements.

[Names of stave dealers in Cette and Marseilles on file in the Bureau of Manufactures.]

PITCH PINE CHIEF IMPORT FROM UNITED STATES AT MARSEILLES.

The total imports of lumber entered for consumption at Marseilles during 1909 aggregated 74,591 metric tons (metric ton = 2,204 pounds). Of this amount 14,612 tons came from the United States, as follows, in tons: Oak building wood, 514; walnut building wood, 2,099; other building woods (chiefly pitch pine and spruce), 6,904; staves, 4,938; cabinetmaking woods, 157. Pitch pine ranks first among the imports from the United States, and about 200 tons of white ash and 2 or 3 carloads of cotton wood were imported. Lesser amounts were received of beech, birch, cedar, cherry, chestnut, cypress, and elm. The cabinetmaking wood imported from the United States is insignificant. Most of the dealers in Marseilles import direct from the United States, but there is still an important business done through English houses. [List of Marseilles lumber merchants is on file in the Bureau of Manufactures.]

UNITED KINGDOM.

BROKERS CONDUCT IMPORT TRADE AT BELFAST.

Consul Henry B. Miller, of Belfast, in answer to an inquiry regarding the lumber trade at that port, states that with but few exceptions all imports are made through brokers. The consul adds:

Investigation has shown that to enter this market successfully the broker can not be eliminated. Several merchants, upon being asked as to their treatment of direct quotations from American dealers, replied that they are invariably laid aside and given little or no attention. However, if an American dealer gets into touch with a broker he may be sure that the local trade will be canvassed in his interest far better than could be done by correspondence direct with the merchants. When a broker receives an order for a certain lot of lumber he chooses from the list of dealers those whose stock specifications meet the requirements. He then cables for quotations and places the order to the best advantage.

The imports of timber (logs) into Belfast during 1909 amounted to 705,352 cubic feet, of which 386,502 cubic feet were pitch pine, 126,696 cubic feet white pine, 99,509 cubic feet Riga, the remainder being birch, oak, elm, etc. There were also imported 279 tons of wood paving block, 12,031 loads planed boards (load=50 cubic feet) 4,208 tons mill boards, 1,230 tons boxwood, 91,181 loads deals, 231 loads lath wood, 546 tons lath, 2,085 tons mahogany, 605 tons pit and prop wood, 2,027 loads railway ties, and smaller amounts of other wood manufactures.

[There is on file in the Bureau of Manufactures for public reference a table showing the kinds of lumber imported at Belfast, the

approximate sizes, quality, prices, and quantity on which prices should be quoted; also names of timber brokers, lumber merchants, and largest consumers, and a list of charges for storing timber and lumber.]

LIVERPOOL.

IMPORTS, STOCK ON HAND, AND CURRENT PRICES.

Consul Horace Lee Washington furnishes the following information concerning the lumber trade in the Liverpool district (Liverpool, Birkenhead, and Garston):

The imports of lumber during January, 1910, amounted to 450,370 cubic feet, an excess of 17,280 cubic feet compared with the imports in January, 1909; the stock on hand on January 31 was 2,604,000 cubic feet, an excess of 142,232 cubic feet compared with the same date in 1909.

The ruling prices (February 16) for American lumber were as follows: Staves, per 1,000: New Orleans extra heavy wine pipe, $268 to $316; extra heavy hogshead, $160 to $170; extra heavy barrel, $98 to $110; New York, Boston, and Philadelphia: Prime W. O. W. I. hogsheads, $102 to $112. Whitewood planks and boards, 24 to 78 cents per cubic foot, 4 quay, according to quality; hickory, 36 to 52 cents per cubic foot. American oak and ash, prices not given; chiefly on contract.

IRELAND.

DUBLIN PORT RULES AND REGULATIONS ON IMPORTS.

Vice-Consul A. D. Piatt, of Dublin, submits the following report on the rules and regulations governing lumber imports at that port:

Practically all the lumber landed at Dublin is handled by the Dublin Port and Docks Board at the custom-house docks, or by the Merchants Warehousing Company (Limited), at 11 Burgh Quay. There are two lines of steamers running between the United States and Dublin. The Lord Line steamers leave Baltimore for Belfast, Dublin, and Cardiff every two or three weeks, while the Head Line runs steamers from New Orleans and Galveston to Belfast and Dublin at rather irregular intervals. All these boats discharge their cargoes direct on the quays at Alexandra Basin, Dublin, whence the goods are carted to the various stores.

Merchandise may be landed, warehoused, stored, yarded, or deposited within the custom-house docks and custom-house dock premises, subject to the regulations provided. [Copy of regulations and charges on file in Bureau of Manufactures.] There is ample accommodation for storage in open yards or under cover for as much lumber as is ever likely to arrive or be on hand in Dublin at any time. All timber is landed from the ships onto the quays either by the ship's tackle or by the port electric cranes. Large steamers always discharge at the quays, usually at Alexandra Basin, as only small steamers can get into the custom-house docks. There are no customs duties on timber or lumber, but there are port dues, which amount on "timber of all kinds" to 3 cents per 50 cubic feet.

There is a timber importers' association at Dublin which deals with questions affecting the trade. The usual custom in arbitration cases is for each party to a dispute to appoint an arbitrator and these two select a third. The usual fees charged by the arbitrators range from $15 to $25 a day. There is an official measurer in Dublin, who

is under the collector of customs. [Name and address of official measurer and his scale of charges, and names and addresses of the principal timber importers and forwarding agents at Dublin are on file in the Bureau of Manufactures.]

CANADA.

LARGE QUANTITIES OF SPRUCE ARE AVAILABLE FOR PULP.

Responding to an inquiry regarding forests and lumber operations in Newfoundland, Consul James S. Benedict, of St. John's, writes that there are about 15,000 square miles of woodland in that country. He adds:

The commercial woods of the forests are birch, juniper, pine, fir, and spruce, the latter being in greater quantity, but much of it is rather too small in diameter to assure profitable returns in its manufacture into lumber. It is more suitable for pulp wood, and for this reason some of the lumber manufacturing companies have closed down, and it is intimated that others will do likewise. The lumber manufactured is used principally for house and general construction purposes.

Information has been received that there is a pine belt of 2,000 square miles, running through the Exploits and Gander valleys, containing the best grades of white pine on the market, which is worth from $50 to $55 per 1,000 feet. The remaining pine in the country appears to be intermingled with other woods. To get it out, therefore, involves more labor, and it is unprofitable unless the other woods necessarily cut at the same time are also utilized.

Practical prohibition of the exportation of pulp wood has resulted in the establishment of two large pulp and paper mills, and there are more to follow. One of the mills will soon be in full operation, and it is estimated that the works when completed will have cost about $6,000,000. The other mill will also soon be in operation. The two companies combined have timber lands to the extent of about 3,500 square miles, and will employ 3,000 men or more.

A crown-land lease extends for 50 years, but in some cases by special legislation leases have been extended to 99 years. The annual tax or rental of crown lands is $2 per square mile and 50 cents per 1,000 superficial feet of trees cut down, as measured by a scaler. There are no other taxes on these leaseholds, and there is no stumpage tax. An English company has a 99-year lease on 3,500 square miles of woodlands, and is erecting pulp and paper mills. There are still some unleased forests.

Of late years about 45,000 tons of wood, valued at $350,000, have been exported annually from Newfoundland in the form of lumber, laths, and shingles, and about 3,500 tons, valued at $40,000, have been imported each year. There is also an annual importation of mast pieces to the value of $8,000. The woods exported go to the United States, United Kingdom, and Argentina, and the wood imports come principally from the United States and Canada.

The wages paid to sawyers in the mills are $2.50 to $3.50 per day, and to other mill men $1 to $2 per day, according to the nature of employment. Choppers and sawyers in the forests receive $18 to $20 per month and board.

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GUTTA-PERCHA AND SUBSTITUTES.

THEIR PRODUCTION, MANUFACTURE, AND COMMERCIAL USES.

Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning gutta-percha, balata, jelotong, and other substitutes:

Gutta-percha is the dried milky juice of the trees of the genus Sapotaceæ, chiefly of the species Palanquium and Payena, the habitat of which is the Malay Archipelago, more particularly Borneo, Sumatra, and Malacca. The name is derived from the Malay words "gettah" (gum) and "pertja" (crum or scrap). The annual production is estimated at 60,000 tons, of which North America, Great Britain, and continental Europe absorb one-third each. Balata is a similar substance, and jelotong is still another, both cheaper than and inferior to gutta-percha.

Gutta-percha is still obtained in a primitive manner. The trees are felled about 4½ feet above the ground and the bark peeled off at intervals of 5 to 6 inches, whereupon the juice begins to run out. If left standing undisturbed the juice forms a substance similar to curdled milk, to which salt or salt water is often added, in order to better separate the gutta-percha. The latter, so separated from the original juice, is kneaded and air-dried. In recent years it has been tried to replace this destructive method by the more rational one of tapping the trees, which renders it possible to draw the substance from the same tree for a number of years. According to a method recently invented by a Frenchman, gutta-percha is extracted from the leaves and branches of the trees by evaporation and distillation, such leaves and branches being shipped to Europe in a dried state. A similar process of obtaining gutta-percha mechanically is that of Professor Jungleisch, by which not the bark, but other vegetable parts of the tree are used for its production, chiefly the leaves. These vegetable parts are pulverized in machines. By boiling this powder in sea water gutta-percha, free from all impurities, is separated from the mass in thin layers. Besides the advantage which these methods afford in sparing the trees, the product obtained is much in demand because of its purity, and high prices are paid therefor.

PROPERTIES OF GUTTA-PERCHA.

Either accidentally or intentionally, natural gutta-percha is adulterated by impure substances, such as sand, earth, bark, chips of wood, etc. Raw gutta-percha, such as is handled on the commercial markets in Asia, Europe, and the United States, forms irregular, oblong loaves, weighing 6 to 8 pounds, or 20 to 25 pound blocks, being reddish brown in color on the surface, lighter inside. The substance feels greasy and has a peculiar odor. At ordinary temperature gutta-percha is tough and viscid, but can be cut easily. It is slightly elastic but only in one direction, rending when stretched in opposite direction. If heated, particularly when dipped in warm water, gutta-percha turns soft at 48° C.; at a temperature of 55 to 60° C. it attains a very high degree of flexibility, and may be pressed into all possible forms or rolled into the thinnest foils. At the temperature of boiling water the substance melts into a greasy, stringy mass, which remains unchanged until the temperature is raised to 150° C. When this point is reached, the product decomposes, forming an oily dis-

tillate. The softening of gutta-percha in hot water is done in order to remove impurities. The substance is insoluble in water, alcohol, ether, and fatty oils; it resists the majority of acids, including fluoric acid and alkalies. It can only be destroyed by concentrated sulphuric acid and nitric acid. It is easily soluble in CS_2 and chloroform, less easily soluble in benzine, turpentine oil, and petroleum. The oil obtained in the process of dry distillation of gutta-percha is an excellent solvent.

VALUE FOR INSULATION.

Gutta-percha is a poor conductor of electricity, for which reason it is most successfully used for insulation of electric cables and other electric conducts. Friction causes negative electrification. Exposed to the air, and chiefly due to the influences of air and dampness, gutta-percha turns brittle, and can then be pulverized, in which state it is soluble in alcohol and ether. This transformation is reached slowly, beginning on the surface, and gradually extending into the interior of the loaf, simultaneously the substance electrifies positively in consequence of friction. If heated with sulphur, gutta-percha vulcanizes, as in the case of india rubber, but the combination is not as close as is the case of rubber. By long vulcanizing with a large proportion of sulphur, and by adding filling materials (chalk, gypsum, coloring materials), hard rubber ("Ebonit," horny gutta-percha) similar to that obtained from caoutchouc is produced. Gutta-percha is also often mixed with india rubber in the manufacture of hard rubber, as it is said to produce an article tougher and less brittle than such as are made of india rubber alone.

INDUSTRIAL PRODUCTS.

For industrial purposes gutta-percha is cut in a cutting machine into thin chips, which under intense motion are washed and torn to pieces in cold and later in gradually heated water, whereby sand, earth, and other impurities are separated from the mass. The latter, so purified, is then placed in kneading machines and pressed into forms in a warm, plastic state, or drawn into pipes, or rolled into thick foils, or prepared for the vulcanizing or hardening process, in the same manner as caoutchouc.

White or purified gutta-percha is handled by dentists for the temporary filling of cavities in teeth. To obtain this article one part of gutta-percha is dissolved in 20 parts of CS_2 (or benzole or chloroform) by warm digestion; the liquid is filtered through animal black, whereby it is discolored, and the solvent is removed by distillation. An absolutely white, stringy mass remains. The following is another process: The solution is mixed with a double volume of alcohol of 90 degrees Tralles, whereby gutta-percha precipitates as a white mass, while other materials and coloring matters remain dissolved. The precipitate separated from the liquid is washed with alcohol, kneaded in boiling water, and rolled out at a medium temperature into sticks of the dimensions of lead pencils. These are best preserved under water, in order to protect them against the influences of the air. White gutta-percha is frequently dyed pink, by adding carmine; when mollified in warm water it attains the highest grade of plasticity.

Gutta-percha is pressed into all possible forms, either alone or mixed with india rubber. The following articles are manufactured therefrom: Cords, tubes, pails, shoe soles, beltings, surgical instru-

ments, knife handles, frames, etc. Gutta-percha is also used for the manufacture of dies for wood engravings, guilloche plates, etc., which are reproduced galvanoplastically. It is also largely used for paper by florists and tailors. Gutta-percha is officinal, and is used in dental practice, as mentioned above; as hoof salve for animals; and, rolled into thin foils, as gutta-percha paper, in the dressing of wounds, bruises, etc.; and, pharmaceutically, for the manufacture of traumacitin, a syrup-like, clear solution of gutta-percha in chloroform, which, applied to the skin, forms, after the evaporation of the chloroform, a transparent, flexible integument, and which, like collodion, is used externally for skin diseases, erosions, scalds, and chilblains. Gutta-percha is, however, chiefly used for insulating electric conducts; for submarine cables it is the only useful insulating material. Of late several surrogates have been utilized for gutta-percha, chiefly in consequence of its high price, among which balata plays an important rôle.

USES OF BALATA.

Balata is a substance belonging to the rubber-like products, and which is very similar to gutta-percha. It is obtained from the milky juice of the "Bully tree" (Sapota muelleri Belk.), found chiefly in the Guianas and Venezuela. This substance is obtained by felling the trees; although nowadays the bark is also cut open and the juice collected in wooden vessels. While a medium-sized tree, according to the old method (by felling) produced a quantity of from 6 to 12 pounds of balata in one process, only 0.6 to 1 pound of balsam is obtained by the method of incision; but in the latter case the bark may be cut every year.

In drying the juice in the air it is transformed into a whitish-pink or reddish substance. The latter is viscid, extraordinarily flexible, more elastic than gutta-percha, can be cut as easily as the latter, and is vulcanizable with sulphur. Friction causes electrification. At 49 degrees C. balata can be kneaded, and it melts at 149 degrees C. When heated, its odor is like that of gutta-percha. The substance is easily soluble in pure CS_2, and can therefore be purified without difficulty by evaporation of the filtered solution. According to Sparlich's experiments, it contains 88.5 per cent carbon and 11.3 per cent hydrogen. Balata has been known in Europe since 1859 only. It was first used in industries in Great Britain, but is now considerably consumed in Germany, particularly for making electric insulators, beltings, for soles and heels of shoes, and in dental practice. For soles and heels of shoes it is boiled with gutta-percha.

SUPPLY OF JELOTONG.

The average price of jelotong, such as Bandjermassin, Pontianak, and Sarawak, during the last five years has been 45 to 50 pfennigs per kilo (10.7 to 11.9 cents per 2.2 pounds). The price is now 58 to 60 pfennigs (13.8 to 14.3 cents) per kilo. Pontianak is the lowest grade, and is generally quoted half a cent below other kinds. At times the price has been as low as 9½ cents per kilo.

Jelotong is considerably inferior to gutta-percha, and is chiefly used as a filling material of low classes of rubber and gutta-percha goods. The article is principally brought upon the European markets by the Borneo-Sumatra Maatschappij Company, which controls the jelotong product almost entirely, via Singapore. London is the principal jelotong market, only small quantities being handled in

Hamburg. The local importers of jelotong do not seek a market for the product outside of Germany; the supplies reaching Hamburg, mostly via London, are almost exclusively sold to inland manufacturers.

An American syndicate is now reported as extracting, by a certain chemical process, the rubber contained in the jelotong; the yield is said to amount to 10 per cent.

TECHNICAL SUBSTITUTES.

Several methods have been applied to produce artificial gutta-percha surrogates. According to two German patents, water, either with or without an addition of salt, is dripped on suitable substances—wax, resin, asphalt, tar, or pitch—heated to a temperature above 100 degrees C., whereby the melting point and lentor of the latter is considerably increased. The materials so inspissated are then, either alone or mixed, stirred with caoutchouc and oils, while the temperature is gradually raised. Finally, the mass is well kneaded in heated kneading machines.

According to a Russian patent, an insulating substance for the covering of cables, etc., which may be used as a surrogate for gutta-percha, is obtained by boiling 45 parts of asphalt, adding thereto, and stirring the mass uninterruptedly, 40 parts of colophony, until a thick mass is formed; thereupon 10 parts of turpentine and 5 parts of linseed oil are poured into the mass, which must be left boiling until the required lentor has been reached.

Another German patent prescribes that caoutchouc be dissolved in turpentine oil; then shellac or asphalt to be added, the mass to be heated until becoming uniform. After removing the mass from the fire, rice flour, watery agar-agar solution, and umbra is added, while it must be stirred until it congeals. Thereupon the mass is manipulated between rolls. In this manner a surrogate for gutta-percha is obtained, which may be vulcanized with sulphur, but preserves the property of being plastic, and which can be kneaded when heated.

Of late the German Telegraph Administration has, by way of experiment, laid a cable in which the insulating gutta-percha has been substituted by "Gutta Gentzsch," an artificial gutta-percha, composed of pure rubber and a certain kind of palm wax. "Gutta Gentzsch" is said to be a favorable surrogate for the real article and not to be inferior as regards insulating properties. Besides, the price of the cable was about 35 per cent lower than one insulated with natural gutta-percha would have cost.

RUBBER AND FIBER COMBINATION.

According to Consul-General John L. Griffiths a member of a tire company in London has been conducting experiments to produce a rubber compound, combining pure rubber with a vegetable substance, that will avoid the defects which he thinks are produced by the common method of incorporating mineral substances, such as magnesia, chalk, and oxide of zinc. The experiments have developed a process by which the vegetable fiber employed is made to pass through the rubber in all directions in minute threads. In this way the rubber and the fiber are caused to act in support of each other, with the result that the compound is remarkably tough and retractile, and resistant under pressure or tensile strain.

FOREST CONSERVATION IN CANADA.

PROPORTION OF MERCHANTABLE TIMBER OVERESTIMATED.

Consul H. D. Van Sant, of Kingston, after alluding to an illustrated address on Canadian forests recently delivered before the Kingston Board of Trade by the secretary of the Canadian Forestry Association, states that the question of the conservation of Canadian forests is receiving the attention of prominent Canadians in various lines, and further says:

The area of the merchantable forests of Canada has been very much overestimated. Estimates of the forest area vary from 200,000,000 to 600,000,000 acres, the timber belt stretching from Ungava across northern Quebec and Ontario and thence north of the prairies to the Peace River country, but the larger portion of this is not merchantable except for firewood, and can not be transported long distances. The area of merchantable timber is estimated by some authorities at 100,000,000 acres. The secretary of the Forestry Association stated that the amount of Canada's merchantable timber was one-third that of the United States, a liberal estimate placing the available supply at 532,000,000,000 feet board measure. A recent Ontario estimate was to the effect that the timber used at the present rate will last the Province 30 years.

In Ontario the last annual return of revenue was $2,082,878. The only reason given that Ontario has not had to resort to direct taxation is because the revenue of her crown lands have been sufficient to meet this need. The annual revenue of Ontario from these crown lands amounts to about $1 per capita. The total revenue from forest lands held by the Dominion is, in round numbers, $4,500,000, which all goes to reduce taxes.

Besides these revenues, the total exports of lumber, timber, pulp wood, and firewood in the last fiscal year for which returns are available was $44,507,528. The home consumption is estimated at $50,000,000 per year and constantly increasing.

EXPORTS OF PULP WOOD AND WOOD MANUFACTURES FROM CANADA.

The value of pulp wood exported in 1890 was $168,180, while in 1908 it had increased to $4,037,852, the United States taking $3,545,530 and Great Britain $485,199 worth.

In manufactured wood products the trade with the United States from 1886 to 1908 has increased from $7,842,526 to $27,470,574, and with Great Britain during the same period the trade has increased from $9,354,244 to $11,843,094, while the total export from Canada during this time has increased from $18,742,625 to $44,170,470. In 1908 the total exports of wood products increased to $49,168,535.

There is importation of forest products into Canada, principally from the United States, and the value of these imports has increased from $2,412,572 in 1874 to $12,032,595 in 1908. For the ten years—1897 to 1906, inclusive—the total imports amounted to $59,934,770, of which $57,520,731 was imported from the United States. In 1905 the import of pine alone from Minnesota and Wisconsin was 125,000,000 feet, board measure, largely to the western prairie provinces. In the other provinces the imports are mostly of hardwood, such as oak, ash, walnut, hickory, and cherry.

It is claimed that over 8,000,000 acres of waste land in Ontario could be managed for forest crops. There are also over 200,000 acres of sand lands, a large portion of which was formerly farm lands that have been sanded over because of the ruthless destruction of trees. It was shown that the destruction of these forests had also caused a commeasurable loss of water power because the snows of winter and the rains of spring and autumn hold back in an even flow the water fed to the brooks and streams.

Considerable portions of the waste sand area in Ontario are being replanted in plats of 100 acres or more at a season, under the direction of the Canadian Forestry Association, and in almost every instance the most barren wastes are beginning to show surprisingly satisfactory results in reforestation. In the prairie provinces, where the soil is richer, the young tree planting has met with even better returns.

The southern portion of the Kingston district the writer has found practically denuded of its best timber, especially along and near the shores of the St. Lawrence River and Lake Ontario. Firewood is selling in Kingston at from $6.50 to $7.50 per cord, as compared with half these prices a few years ago.

On Amherst Island, one of the most beautiful and fertile islands in the district, containing some 13,000 acres, more than 5,000 acres of valuable large and straight white oak, pine, hickory, maple, and basswood timber have been cut and carried away without regard for conservation, so now there are not 100 acres of timber land on the entire island. The population of the island has decreased from 1,300 to 800 since this timber cutting ended, and those remaining are burning fence rails for fuel, or are paying higher prices for coal brought in vessels during the open season. Wood is at a premium and the price is constantly increasing.

PERUVIAN FORESTRY DEVELOPMENT.

NEW LAW PROVIDES FAVORABLE FEATURES FOR EXPLOITATIONS.

Chargé d'Affaires William P. Cresson, of Lima, forwards the text and translation of the new Peruvian forest land law, which was published December 31, 1909, and which is filed for public reference at the Bureau of Manufactures. Mr. Cresson comments:

As a large part of the capital serving to exploit these Montaña regions comes from America, and as a constant appeal is being made to investors in the United States, especially in connection with the rubber industry, I have thought it expedient to give the complete text of these new laws. Among the more important American interests and concessions are the new McCune railway project, a railroad connecting the navigable waters of the upper Amazon system with the West Coast, the Inca Rubber Company, and a number of private concessionaires. Certain changes in the old laws have been urged in Congress for the last two years, especially by the Representative of the Department of Loreto, one of the principal centers of the rubber industry.

Among other features of the old law which have been altered or abrogated is the former provision by which in certain cases the Government, while granting lands in the rubber-growing districts,

retained a proprietary interest in the rubber trees growing thereon. This was primarily intended to preserve the trees from destructive methods of exploitation, but in reality the opposite result was usually obtained.

Taken in connection with the probable settlement of all outstanding questions connected with the Brazilian boundary, this law, defining the rights and privileges of the proprietors of rubber lands, can not but have a stimulating effect on the development of this rich hinterland, where questions of sovereignty have heretofore been added to the natural difficulties of exploitation.

WOOD PRESERVATION.

NEW PROCESS OF TREATMENT IN AUSTRALIA.

Consul John F. Jewell, of Melbourne, submits the following report concerning a new method of treating wood which has been invented and tried with much success in Australia:

The essential part of the Powell wood process consists in boiling the wood and allowing it to cool and absorb a saccharine solution, after which it is dried, rendering the wood thoroughly seasoned within a few days after cutting, increasing its strength, and stopping all warping and shrinking. The sap in the wood is driven out and replaced by an antiseptic, owing to the saccharine solution boiling at a higher temperature than water, thus making the wood impervious to dry rot and to the attacks of white ants and other parasites which prey on ordinary lumber.

During the past four years a number of pieces of lumber were tested by the government of Western Australia in localities where white ants are very numerous, and the photograph forwarded [on file in the Bureau of Manufactures] shows the difference in two pieces of lumber after one such test, the treated piece remaining sound, while the untreated one has been destroyed.

LEATHER GOODS.

FOREIGN SHOE TRADE.

ASIATIC TURKEY.

A LARGE FIELD OPEN FOR AMERICAN EXPLOITATION.

Consul Jesse B. Jackson, of Aleppo, reports as follows concerning the shoe and leather trade of northern Syria and the opening for American products:

If there exists a field anywhere ready for exploitation in foot wear of all kinds and varieties by American exporters, that place is northern Syria. Only a small quantity of shoes are imported annually, most of these coming from Switzerland and France, though there is not a single shoe factory in Aleppo, a city of 200,000 inhabitants. All shoes are handmade, mostly sewn, no machinery of any kind being employed, with the exception of an occasional foot-power sewing machine. The leather mostly used, from a European country, is very inferior in quality, and appears to have spent little time in the tanning vats. Patent leather, glazed kid, calfskin, and horsehide sole leather are especially German products, while patent leather, glazed kid, calfskin, and various colored kid come from France and the United States.

Two or three years ago American dealers secured a substantial hold on the markets of Aleppo for upper leathers, but when the business appeared to be fairly within their grasp a lot of cheap stuff was sent to the dealers here, resulting in a great loss of confidence in the American product. There is a good demand for all kinds of leathers, and a little attention and fair treatment on the part of exporters would be handsomely rewarded. Considering that there are between 400 and 500 shops in this city alone where shoes are made entirely by hand, with as many more in the outlying cities of Aintab, Marash, Orfa, Antioch, and Alexandretta, besides numerous other towns and villages, some idea of the opportunities in that direction may be appreciated. It is estimated that leather to the value of more than $250,000 is imported into this city annually, and that raw skins, tanned locally, would make a total of over $500,000. Of this the United States secures a very small share—$3,504 worth in 1908—although an improvement is looked for in the near future. No sole leather whatever is imported from the United States.

STYLES OF SHOES IN DEMAND.

There should be an opportunity here also for the sale of shoe-manufacturing machinery, for it is not to be expected that the

Syrians, any more than Europeans and Americans, will continue indefinitely to manufacture shoes by hand, and after more or less indifferent models and forms. The lasts, patterned after European forms, mostly French, are gradually giving way before the more comfortable American styles, and as a result there should be an opening for the introduction of American shoes and accessories. The present customs duties of 11 per cent ad valorem are expected to be increased to 15 per cent within a few months, but even at that there should be no reason why moderately priced American shoes, for men, women, and children, should not find a ready market. An attractive shoe for adults that would retail here for $2, $2.50, $3 to $3.50 should be a good seller. Special attention should be given to the fact that this is a warm climate, consequently the demands here are principally for light-weight shoes, also in light colors and flashy in appearance. A great quantity of cloth-top shoes and low shoes are worn. Demands for American styles are increasing, but the taste does not run to the broadest forms, but more to the medium widths. As the material and work of the local shoemakers are much inferior to the American, the general durability is much less, but the appearance is quite good, and for that reason appearance will have much to do with the successful sale of the American product. True values and energetic methods should prevail, as well as being satisfied with moderate profits, in order to stimulate the trade and provide its establishment upon a firm basis. The really most effective manner in which to do this would be to establish depots or stores, wherein none but American shoes could be purchased.

DRESSINGS, RUBBERS, PRICE LISTS, TERMS, ETC.

Low-grade shoe dressings of all varieties and colors are imported, principally from France, Germany, and Austria. The numerous bootblacks employ them all, with the result that great quantities of dressings are consumed. Light-colored shoes being largely worn, the white and tan pastes and varnishes are more in demand.

Rubber overshoes are imported from the United States, Sweden, and Russia, the first named having the bulk of the trade. The styles vary in form and weight according to the requirements of the trade. The qualities are more or less satisfactory, but it has been claimed that certain consignments from the United States were not durable, probably caused by some firm or firms shipping the remnants of an old stock carried over from former years. It seems almost needless to say that such dealings react upon the trade in general and cause a loss of confidence, when just the contrary is most desirable to enable American exporters to hold the ground already gained by great effort.

As considerable time must necessarily elapse awaiting replies to inquiries addressed to firms in the United States, it is most essential that all possible information be submitted first hand, such as prices, terms, etc. Prices should be given c. i. f. Alexandretta or Beirut, Syria. Terms at least as favorable as "against documents" will no doubt be requested, and samples of the various styles, with sizes given, should be forwarded. A list of the principal shoe dealers, also of the importers and commission houses of the entire consular district, is on file in the Bureau of Manufactures where it may be consulted. Correspondence should be in French.

ARMENIA.

A PROBABLE MARKET FOR AMERICAN SHOES IN HARPUT.

In answer to an inquiry, Consul William W. Masterson furnishes the following information concerning the class of women's shoes worn in Harput:

The greater part of the shoes worn by the women of this Turkish district are locally made, of coarse workmanship, and of low pattern, so that they may be slipped off as slippers and left at the door of the living room, for in this room the women wear only stockings or socks. These shoes are very cheap, costing 75 cents to $1.25 per pair.

The more costly shoes for women's wear are also generally of local make, of either the low or higher cut of shoe, invariably pegged, and, in comparison with American shoes, inferior in shape, style, and general appearance. These shoes are made to order by the local shoemaker, at $2.40 to $3.20. There are a few shops handling Constantinople shoes for women, being ordered by the merchants, a few dozen pairs at a time, along with other merchandise.

The ladies' shoes, whether of local or Constantinople make, are always supplied with shells or second low shoes, worn as protection to the regular shoe in going out on the street or in their gardens and yards, but on entrance to the living room left at the door, the reason for wearing these double shoes being that few if any of the living rooms in a house are supplied with chairs, the inmates generally sitting on cushions or mattresses along the side of the wall, frequently with their feet doubled up, oriental fashion, so that it is necessary for the foot wear to be always clean. These overshoes are generally very neat, frequently of patent leather, and are made to slip on or off without having to stoop down to remove them.

There is no doubt that there is a limited market in this region for ladies' shoes of American make, as the better class of the women are extremely fond of pretty shoes, and by reputation American shoes of all kinds are extremely well thought of. The great difficulty would be to induce the merchants to violate ancient usage, and purchase any considerable stock of shoes or to engage in this line exclusively.

What has been said concerning women's shoes applies equally to men's wear, the market for each being precisely the same, and the names of some of the general merchants transmitted herewith may result in some orders being secured if letters are written to each making possible offers. These letters may be written in English, for if the merchant is unable to read them they will likely be brought to this consulate for translation. [List of merchants mentioned on file in the Bureau of Manufactures.]

EUROPE.

GREAT AND GROWING DEMAND FOR THE AMERICAN PRODUCT.

From a report, prepared for him by an American expert superintending the installation of American shoe machinery in a large factory in Bohemia, Consul Joseph I. Brittain, of Prague, draws the following conclusions:

The demand for American-made shoes is greater in Europe than many manufacturers are aware of, and the demand is steadily

increasing. Every detail of American style in pattern, last, and construction is seized upon and introduced into native lines, wherever feasible. The old-style French and German last will soon disappear and in its place will be seen the more comfortable and better-fitting American model or its imitation.

Many American writers claim that American shapes can not be made in Europe, but this expert says such shapes are easily manufactured where factories are equipped with American machinery or machinery made from American models, and that the workmen are bright and quick to learn to operate our machinery under American instruction. He further says that wages here for making shoes are but one-fifth those paid in the United States.

The following note of warning given in this expert's report [which is on file in the Bureau of Manufactures] should be of direct interest to all American shoe men:

It is interesting to watch the gradual, but sure, approach to the American shoe upon the trade here, which is continually improving. It is upon this point I wish to sound a warning to exporters and prospective exporters not to hold European conditions too lightly. One year ago I could have taken my place at the head of American scoffers in this respect, but six months actual contact has opened my eyes to the danger that lies here to American trade when these people shake off their prejudice against our styles and come into our market and buy our lasts and patterns wholesale. A large American company is already here, and either manufactures its whole line of machinery here, or has its stock in a central city on the Continent, with a host of as well-trained agents and instructors as we can boast of in the United States. Then there is the duty on American-made shoes, very high and still increasing, while the duties on supplies and leathers from the United States are comparatively low.

TRINIDAD.

BRITISH AND AMERICAN BOOTS AND SHOES IN COLONY.

The following report, covering the boot and shoe trade of Trinidad, is furnished by Consul Franklin D. Hale:

The imports of boots and shoes into Trinidad for the last ten years have not shown much change, being somewhat less in 1909 than at the beginning of the decade. The imports during the fiscal year 1908–9 were as follows: From the United States, $92,151; from the United Kingdom, $102,911; with small lots from various other countries. All classes and styles of goods and values are shown, but the largest volume of trade is in the lower-priced article. Prices range from the lowest up to $6. Tans in color are much worn, but of course the black predominate. High boots are more worn than the low shoe, especially by men; men's boots are nearly all laced instead of buttoned, while ladies' boots are about equally divided between the two styles.

There is a great demand for a light boot of good style and finish, although it may not be so durable.

IMITATING AMERICAN STYLES.

The American boot is known to be of the very best style, perfect in finish, and an easy fit. Some of the best show windows in the city are artistically filled with American boots and shoes. Some of the leading stores report 50 and even 75 per cent of American goods carried for the retail trade; others carry mostly British-made goods; but no large store catering for the general trade would be without some lines of high-grade American boots and shoes.

The attempt of the Canadian manufacturers to gain a foothold in this market has not thus far met with any success, although they have tried to pattern after the American in style. The English manufacturers also have found it necessary to copy the American in style and finish in order to maintain and hold their share of the trade.

One dealer who carries about 30 per cent American goods says that he finds that a given amount of capital invested will give a larger aggregate of profit from English than American goods.

An American manufacturer recently lost a good order from a large importing house because he would not give a 25 per cent discount on samples, a concession generally given by the English manufacturer. Had this order been accepted, even at a possible loss of certain profits on the comparatively few pairs used as shelf samples, a good customer would have been gained.

BREAKAGES—TRADE SUGGESTIONS.

Occasionally the light cases are broken in transit and a pair or more of boots stolen therefrom, but a claim against the transportation company therefor is always collected without any difficulty. The English packing cases are much heavier than the American, and are not only supported by iron straps, but often a sunken wire is put around the box, and sealed for greater protection.

It is seldom now that American goods bought are not equal in quality to the sample or representation, and when such a case happens an equitable adjustment is easily effected.

The English manufacturers, and those here who seem specially interested in maintaining English trade supremacy, are active in creating even a greater demand for their goods. They are now making the half sizes, and in every way possible are trying to reach the standard of American goods in style and finish—a superiority which has greatly aided in the sale of our products.

With quality equal in every particular to the sample shown or representation of the same, prices comparatively as low as those of the United Kingdom, a constant study along the line of new and pleasing styles and easy fits, and a faithful activity on the part of representatives, aided by transportation facilities and freight advantages, American manufacturers, as long as equal privileges are granted to all countries by tariff laws and customs regulations, should be able to increase their trade here.

PORTO RICO.

POSSIBILITIES OF SHOE SELLING IN THE ISLAND.

Special Agent John M. Turner finds that the demand for shoes of all kinds has increased very much in Porto Rico since American occupation and discusses this trade as follows:

At this writing (March 30) there are about 90,000 children attending the public schools of the island, nearly all wearing shoes, and those in the country districts who do not have them look forward to the time when they can. Many of the laborers do not wear shoes, very few of the ox-cart drivers wear them, but the time will soon arrive when all the inhabitants of the island will be wearing them, as the physicians claim that bare feet are the chief cause of anemic infection, and with the change in the organic law it is stated an effort

will be made to have an enactment compelling all persons to wear foot covering. In the cities of the island very few people now go barefoot.

The class of shoes worn depends upon the class or position of the wearer. The wealthier citizens send to the United States or France for their fine foot wear. It is possible to buy dancing slippers of the finest class here now, costing at retail, say, $6 per pair. The best class of canvas shoes is not carried in stock. Upon inquiry among dealers I find the cause of not having a better-wearing canvas shoe is that local merchants have not been able to import them from the United States. It seems most of the manufacturers there look upon the canvas shoe as one of short wear, this opinion being based upon the short season in the United States, the fact that such shoes can be worn here the year round not receiving consideration. If good cotton canvas shoes with oak-tanned soles could be offered here there would be a ready sale. Leather shoes do not do well in the Tropics; the leather molds quickly, patent leather loses its gloss and becomes sticky, and taken all together cotton canvas shoes offer the greatest chances for extended sale. The uppers can be colored to match suits, but the largest sale will always be for white canvas with good leather soles.

Porto Ricans are not cheap buyers and do not want cheap things to wear. They want the best, and shoe dealers make a mistake in sending winter catalogues and cheap samples here. There are great possibilities for high-class shoes of all kinds, and satin shoes for ladies, slippers, and dancing pumps of the highest class can be sold liberally.

EXPORTS FROM THE UNITED STATES.

There was exported from the United States to Porto Rico in the calendar year 1909 a larger amount of leather and its manufactures than in any previous year. The comparative values were:

Articles.	1907.	1908.	1909.
Sole leather	$929	$658	$104
Upper leather:			
Patent or enameled	2,502	417	91
Splits, buff, grain, etc	50,258	60,772	114,594
All other leather	39,410	1,783	2,302
Boots and shoes	644,351	467,109	716,715
Harness and saddles	45,657	42,850	47,849
All other manufactures of	70,910	69,706	79,017
Total	854,017	643,295	960,672

MEXICO.

AMERICAN SHOES, SHOE MATERIALS, AND MACHINERY IN MAZATLAN.

The following information concerning the shoe industry and trade in the Mazatlan district of Mexico is furnished by Vice-Consul Charles B. Parker:

The manufacture and sale of fine footwear in Mazatlan has been and is a good business. There are several factories, and these supply the demand for a territory consisting of the State of Sinaloa, the Territories of Tepic and Lower California, and a portion of the State of Durango. The leading shoe factory in Mazatlan employs 86 workmen, whose wages range from 75 cents to $1.50 per day, with a daily output of about 100 pairs. The greater part of the material used in this factory is American, nearly $2,000 worth per month coming from

the United States. Up-to-date American machinery is used here for machine-made shoes. All the better classes use American-made shoes, the Mexicans more so than even the American residents. Judicious advertising would increase this trade. One thing that cuts down the demand for shoes of all descriptions is the fact that nearly all the laborers wear sandals.

HIDES AND LEATHER.

CANADA.

SHIPMENTS THROUGH WINNIPEG—PRICE CONDITIONS.

Consul-General John Edward Jones, of Winnipeg, submits some observations concerning the hide market of western Canada:

When the United States removed the duty on hides and put them on the free list the shippers of western Canada expressed great interest in its probable effect on the exportation from this country. There has been time enough now to judge with some degree of certainty the effect. The shipments of raw hides through this consulate-general during 1909 aggregated in value $1,124,932, as against $648,418 in 1908. This increase of $476,514 can not be attributed in any manner to the abolition of the duty. The dealers' explanation is that the increase is due entirely to the increased demand for beef, due to the rapidly growing population. In a special report upon the subject prior to the passage of the bill I stated that the abolition of the duty would make little difference upon the Canadian shipments, for the reason that the United States was the natural market for the hides, and few, if any, were sent abroad. There was always, however, a certain amount sent to England, and the abolition of the duty has diverted these to the United States.

The remarkable feature about the situation in Canada is that notwithstanding the fact that the supply was much greater last year than the year previous the prices increased, and the question has often been asked as to what the price of hides would have been had the duty remained at 15 per cent ad valorem. The Canadian shippers send a lot of their stock to the United States, but they are finding now, by reason of the removal of the duty on hides, that the American manufacturers are buying in markets which, before the passage of the tariff bill, supplied practically no stock. As soon as the duty on hides was taken off a number of tanners living in territory contiguous to Canada sent special agents through the country to buy and ship. This had the effect of disconcerting the market for a time, because these representatives, in order to obtain a supply, paid more for the stock than the Canadian dealers thought they were worth. The situation, however, has rapidly adjusted itself and prices now are on the decline, although there is still an active demand for first-quality hides.

HONDURAS.

THE MARKET GLUTTED AND NO DEMAND FOR CATTLE.

Vice-Consul B. D. Guilbert, of Tegucigalpa, furnishes the following information concerning live stock in Honduras:

Honduras has 725 haciendas or stock ranches, on which are 466,215 head of cattle, 64,434 horses, 13,434 mules, 2,373 burros, 24,052 sheep,

and 145,352 hogs. The past year has been a very good year for live stock; with plenty of rain and food and no pests, the increase in the herds has been noticeable. With the exception of 3,853 head exported, there has been no demand for cattle; the home market is glutted; fat steers are sold here for about $10, gold.

Nearly everything raised has been on the hit-or-miss plan, the 725 haciendas will not average 100 acres of fenced land, and little study is made of breeding or of bettering the condition of stock.

BRAZIL.

EXPORTS OF HIDES FROM RIO GRANDE DO SUL.

Vice-Consul-General J. J. Slechta, of Rio de Janeiro, furnishes the following statistics covering the hide trade of Rio Grande do Sul:

The exports of hides from the State of Rio Grande do Sul during 1909 were the largest ever recorded. The figures are significant of a healthy development in the state's meat industry, and with the installation of cold-storage plants there will doubtless be a continued increase in its hide exportations.

A large company has been formed for erecting and operating a cold-storage and meat-packing plant, and others will follow, especially after harbor improvements have been carried out. The number of hides exported and whither exported from Rio Grande do Sul during the last four years were as follows:

Year.	Salted.	Dry.		Total.
	Europe.	Europe.	United States.	
1906	447,742	385,378	28,000	861,120
1907	500,543	235,465	10,000	746,008
1908	470,719	275,674	20,100	766,493
1909	573,649	384,695	12,100	970,444

GERMANY.

MARKET FOR AMERICAN HIGH-CLASS PRODUCTS.

Consul-General Robert P. Skinner, of Hamburg, reports as follows concerning German and American leather, and the classes of the latter for which the Empire affords a market:

Germany has become a great leather exporting country and is seldom in the market for American leathers, except of very high-grade qualities, such as upper leathers of kid and box calf. In all the common varieties German tanners are more than able to hold their own, but in the superior classes American manufacturers still lead and probably will continue to do so indefinitely. Neither is Germany specially interested in American sole leathers, as the German sole leathers are produced at a price which renders competition difficult. German sole leather is subject to government tests by burning, to prevent the weighting of the leather with glucose or other adulterants. From time to time there are opportunities through Hamburg exporting houses to dispose of American leathers for re-

export, or even direct shipment from the United States to non-German markets. Thus, last year about 300 rolls of hemlock-tanned American sole leather came to Hamburg for reexport.

American leathers have not been affected by the recent admission of all American products to the enjoyment of the conventional German rates of duty, with the exception of half or entirely dressed sheep, goat, lamb, or kid skins, without the hair, not dyed nor further prepared, split or not, formerly dutiable at 3 marks (71.4 cents) per 100 kilos (220 pounds), when imported from the United States, and now dutiable at 2 marks (47.6 cents). Other leathers, of which the net weight of each piece exceeds 3 kilos (6.6 pounds), are dutiable at the following rates per 100 kilos: Hides or half hides, $7.14; pig leather, $4.284; bend leather, $7.854; leather for the manufacture of driving belts, $5.236; leather, the pieces of which weigh from 2.2 to 6.6 pounds each, $9.52, except natural color calf, which is $5.95; leather, the net weight of each piece of which is less than 2.2 pounds, $11.90. It is leather of this high grade, dutiable at $11.90, particularly, which is sought from the United States, the imports of 1909 having been 210 tons.

IMPORTS AND EXPORTS.

The following statement shows the imports and exports of leather into and from Germany in 1909, together with the imports from and to the United States:

Description of leather.	Imports.		Exports.	
	Total.	From the United States.	Total.	To the United States.
In pieces weighing more than 6.6 pounds:	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
Lining, and upper leathers for shoes and slippers.	114.8	23.9	8,337.2	56.3
Sole leather	1,353.3	.....	4,706.5	.....
Belting leather	667.5	.....	96.3	.....
Harness, furniture, bookbinders, etc., leathers	100.0	.....	1,588.8	25.7
Head and collar, horse and pig leathers	91.1	.....	384.6	.....
In pieces weighing each from 2.2 to 6.6 pounds:				
Upper leathers for shoes	45.0	.....	.....	.....
Sole, belting, and calf leathers	18.3	.....	.....	.....
In pieces weighing less than 2.2 pounds:				
Upper leathers for shoes	61.3	15.3	.....	.....
Sole leather	114.4	.....	.....	.....
Glove and glace leathers	16.3	.....	689.0	405.1
Chamois-skin leathers	10.2	.....	58.6	26.1
Goat and kid, other than glove leathers	333.1	210.5	1,502.0	33.6
Sheep and lamb, other than glove leathers	954.0	.....	574.0	.....
Total	3,879.3	249.7	17,937.0	546.8

[A list of the Hamburg dealers in leather, transmitted by Consul-General Skinner, is on file in the Bureau of Manufactures.]

BRITISH INDIA.

NUMBER OF LIVE ANIMALS AND EXPORTS OF HIDES AND SKINS.

Consul E. Haldeman Dennison, of Bombay, states that no recent census is available concerning the number of the various live animals in British India, but the Government Reporter on Economic Products states that it can not be far short of a grand total of 220,000,000, of

which 40 per cent die or are slaughtered annually, and that the hides and skins of 20 per cent of these are exported.

The following statement shows the quantity and values of hides and skins exported from British India in the fiscal year 1908–9:

Description.	Pounds.	Value.	Description.	Pounds.	Value.
Hides	86,687,392	$15,950,000	Tanned—Continued.		
Goatskins	50,207,024	11,180,000	Goatskins	8,420,560	$4,973,000
Sheepskins	1,040,704	201,200	Sheepskins	7,077,280	4,002,370
Other hides and skins	1,797,600	465,670	Other skins	486,528	133,300
Tanned:					
Hides	19,169,808	4,654,210	Total	173,886,896	41,559,750

Owing to the depressed condition of trade, the foregoing statement shows a decrease of from 30 to 40 per cent, as compared with the preceding year, raw hides dropping from 12,917,000 in number to 8,276,000, and raw skins from 26,866,000 to 17,202,000. About 80 per cent of the raw hides are exported from Calcutta, of which over one-half is destined for Germany. The United States takes about 75 per cent of the raw skins.

Of the tanned hides and skins the bulk is exported from Madras to the United Kingdom, which acts as a distributing agent for the Continental and American markets. There is no doubt but this part of the trade could be greatly enhanced by the adoption of more scientific methods of curing, tanning, etc.

HOW THE TRADE IS CONDUCTED.

Hides and skins in India are either air dried and then (usually) dipped in arsenic to destroy insects, or dry salted. Buffalo hides are almost always dry salted. Hindoos are not permitted to sell cattle for slaughter, but animals are slaughtered in Mohammedan villages, while municipal towns usually contain slaughterhouses. The hides are bought by Mohammedan owners of small warehouses, and sent by them to Mohammedan commission agents in Calcutta, who in turn sell them to European merchants, in large lots, by private auction. Some European firms, however, have their own agents for collecting hides. The hides bought in Calcutta are sorted, trimmed a little, arsenicated if air dried, cured, and baled for export.

They are classified according to origin, quality, and weight, and each large exporting firm has its own marks, which are known in the home market. If the hides are found, subsequent to purchase, not to come up to specifications the exporter is called upon for a refund, the amount being fixed by arbitration.

A remarkable feature of the hide trade is that the only country to which India exports tanned leather is England, the Continent and the United States imposing such high duties thereon as to preclude such trade. The chrome leather industry is making good progress in the Madras Presidency. In the south of India the largest demand for leather is for water bags, of which several hundred thousands are required every year. It takes two good hides to make one of these. To supply sandals, required by nearly 50,000,000 people, a large quantity of leather is also used, and for both of these classes of goods chrome leather has been found to be most suitable to their requirements.

FINANCE AND ECONOMICS.

TRAVELING ABROAD.

BRAZIL.

DELAYS IN OCEAN TRANSIT—SCHEDULES IRREGULAR AND UNCERTAIN.

In the following report, mailed at Pernambuco January 18 and received at Washington February 18, Special Agent W. A. Graham Clark describes the delays to which travelers in South America are subjected, mainly on account of irregular and uncertain sailings of steamships between Atlantic ports:

More time is required for traveling in South America, and also more time required for a traveling man to work the towns, than is necessary to travel equal distances or to canvass towns of the same population in almost any other part of the world. This should be remembered by those sending out commercial travelers. Not only are the distances great and the merchants averse to prompt transaction of business, but in some sections ships are few and far between. This is especially true of the northern coast. There is no line, for instance, from Colombia or Venezuela down the coast to the Guianas and on to Brazil. Passengers from Venezuela for the Guianas must first go to Trinidad and then come back to Trinidad to secure passage on a boat to go elsewhere. If they wish to reach Brazil they are compelled to go to Barbados, as the lines running to Brazil stop at that island port only.

AN EXAMPLE OF EXCESSIVE DELAY.

As an instance of the excessive delay to which travelers in this part of the world are sometimes exposed it may be of interest to cite my own case, in which it took a month and a half to get from Caracas, Venezuela, to Manaos, Brazil, having to wait for ships at three different points. I was in Caracas in October and wished to get to Manaos. To do so it was necessary to go via Trinidad and Barbados. Relying on a printed schedule of the Royal Mail Steam Packet Company giving a boat for Trinidad October 31, I left Caracas October 29. On arrival at La Guaira I found that the Royal Mail had cut out the Venezuelan ports and that the first boat for Trinidad was a Hamburg-American on November 6. This boat was two days late, but finally left November 8 and reached Trinidad November 11. I caught the first boat for Barbados on November 15 and reached there the day following.

On account of the plague in Venezuela most of the time all baggage from there is fumigated at Trinidad, the strong sulphur used injuring clothes as well as rusting all metal exposed to it, such as

trunk bands, etc., and the passengers are required to report daily to the quarantine officer for a period of eight days. As I wished to leave before the expiration of this time, I was allowed, as a special favor, to transfer my daily inspection to the quarantine officer at Barbados, but this is not usually allowed.

On arriving at Barbados the afternoon of November 16, I found there was no ship for Para before November 28, and as this vessel came in four days late, I finally sailed December 2 by the Booth Line. This ship arrived at Para December 8, and after remaining three days to handle cargo, started on its 1,000-mile trip up the Amazon December 11, and reached Manaos on the 15th. In no other part of the world have I experienced such difficulty in getting around. If the ships had been on time and I could have made fairly close connections, the trip even then would have taken about half this time.

PREARRANGED SCHEDULES LITTLE USE.

The above gives some idea of what a traveler in this section must contend with, and how it is almost impossible to adhere to any schedule arranged in advance. At the same time a traveler before leaving New York should obtain as full schedules as possible of the sailing dates of lines from the various ports, as the local agents at many of these ports know only their own schedule, and it is often impossible to ascertain the sailing dates of other lines from the next port. Thus at La Guaira no one knew anything as to the sailing dates from Trinidad to Barbados, and at Trinidad no one knew the sailing dates from Barbados to Brazil.

On coming back down the Amazon from Manaos to Para it took only three days as the current was in our favor. I made this trip on a Booth Line ship bound for Europe, and found it to be very much more commodious and better equipped than ships of this line that run to the United States, as the former cater to the passenger trade, whereas the latter carry passengers only as incidental to their freight service.

At Para I transferred to a Lloyd Brasileiro ship for Pernambuco, but it then took a further six and a half days, as the ship stopped at Maranham, Fortaleza, Natal, and Parahyba en route. Pernambuco is almost as far east of New York as San Francisco is west, and as the great Brazilian promontory on which it is located juts out so far into the Atlantic, only ships that make the Amazon their terminus go to Para, and from Para to Pernambuco transit is confined to the local lines, mainly by the subsidized Lloyd Brasileiro. This line is not as well equipped as some of the European lines, but in traveling from one Brazilian port to another it is frequently chosen by drummers, especially if they carry many samples.

On a local ship from one port to another there is no baggage inspection. On going from one port to another on a foreign ship there is baggage inspection at each port at which one lands, duties are levied afresh on all dutiable samples, and in Brazil most samples are dutiable unless so mutilated as to be impossible to use. The first custom-house gives no receipt available for identification of the samples at the next port, and if one wants to make several ports in Brazil via foreign lines the only way to avoid paying duties at each is to pay a Despechante at the first port to export the goods from that port and also pay the state export tax. The amount is not large,

but as it requires at the least a half day to comply with the official regulations to get it, many drummers prefer to travel by the local lines and avoid this trouble.

At Pernambuco one comes within the zone of numerous European steamship lines, and from there southward, until Buenos Aires is reached, there is no trouble in getting around except to some of the smaller ports visited only by local lines.

HONDURAS.

ROUTES TO THE CAPITAL—PRIMITIVE METHODS OF TRAVEL.

Consul Samuel MacClintock, of Puerto Cortes, remarks that information about Honduras, judging from the letters received at the consulate, seems difficult to obtain in the United States, and thinks that a few facts on the subject will therefore be of interest:

Honduras, in spite of its proximity to the United States and its early occupation by the Spaniards, is one of the most undeveloped countries in the world. Traveling in the country is difficult on account of the primitive conditions prevailing.

Puerto Cortes, on the northern coast, is the largest port in the Republic, and only three or four days by steamer from New Orleans. The United Fruit Company maintains the mail service between the two ports, its steamers, flying the Norwegian flag, leaving New Orleans on Thursdays, touching at Belize (British Honduras) and Puerto Barrios (Guatemala), and arriving in Puerto Cortes the following Tuesday. The passenger fare is $30, the freight charges 40 cents per 100 pounds, or 20 cents per cubic foot. The Central American and the Hubbard-Zemurray steamship companies also have ships, but without fixed schedules, in the banana trade between New Orleans and Puerto Cortes. The Troy Company operates a fortnightly service between Tampa and Puerto Cortes. There is also an irregular service between the latter port and Mobile.

Ceiba and Trujillo are the next most important ports on the Atlantic coast. The Hubbard-Zemurray Company maintains a weekly service between Ceiba and Mobile, sometimes by way of Trujillo; and the Vacarro Brothers a service between Ceiba and New Orleans.

From Puerto Cortes a railroad runs 57 miles into the interior, passing through the beautiful and fertile Sula Valley containing San Pedro, a city of 10,000 inhabitants, and the most important commercially in the Republic. There are no wagon roads leading into the interior from Pimiento, the terminus of the railroad. If one wishes to go on to Tegucigalpa, the capital, some 200 miles in the interior, he must take mules, and should also provide his bedding and servants. It is best to carry a hammock, which can be swung either indoors or out, and something to help out the thrice daily menu of eggs, corn cakes, beans, and coffee. From the end of the railroad this journey to the capital can be made in six or seven days.

SOUTHERN OVERLAND TRIP SHORTER.

Owing to the lack of accommodations en route this is a hard trip, and most travelers prefer to go from New York or New Orleans to

Panama and from there take the Pacific Mail steamers to Amapala, the Pacific seaport of Honduras. This is the route for all freight sent into southern or central Honduras. Amapala has about 2,000 inhabitants and is on an island some 20 miles from the mainland, at San Lorenzo, which is about 75 miles from the capital. Formerly there was a good wagon road from San Lorenzo to Tegucigalpa, and the journey could be made comfortably in an automobile in a single day, but now the road is impassable for any vehicle except an ox cart, and the trip by mule takes about three days. There are no comfortable inns en route, but the stopping places are somewhat better than by the road from the north. One meets everywhere a primitive hospitality which at least secures him food and shelter.

Tegucigalpa is a city of perhaps 25,000 inhabitants, but its hotel accommodations are inadequate. The traveler may return to Amapala and go up the Pacific coast to Guatemala, take a train across that country and connect with a steamer at Puerto Barrios for New Orleans, or he can proceed on up the Pacific to a Mexican port where there is good rail connection, or on to San Francisco, a journey of some 25 days from Panama.

The mail route between Tegucigalpa and the United States is by way of Puerto Cortes. The light mail is carried on the backs of men in about seven days; the heavy mail goes on mules, and takes about two days longer.

Much of the interior of Honduras lies at an elevation of some 3,000 feet above the sea, and has an agreeable climate and beautiful scenery. The traveler passes through fine woods, excellent grazing lands, and many valleys capable of varied and extensive cultivation, but which to-day lie almost fallow because of lack of transportation for products.

MEXICO.

THE ANCIENT RUINED CITIES OF YUCATAN DRAWING AMERICANS.

Consul G. B. McGoogan writes from Progreso that there has been an increasing tendency in the last few years on the part of Americans making foreign tours to select Mexico as a country to be visited, on which the consul comments:

These trips should be encouraged as a business proposition, because, in addition to the pleasure derived and knowledge gained by the tourists who visit Mexico, the results are far-reaching in a better understanding of the social and commercial conditions and the inclinations of the inhabitants of this sister republic. The traveling of Americans through Mexico will result in American investments in Mexico, and a general increase in business between the two countries.

An interesting feature to tourists are the ruins of the ancient Maya cities of Yucatan, of which the most prominent are Uxmal and Chichen Itza. On account of the extent, antiquity, and archæological lessons they teach, Yucatan has well been named "The Egypt of America." As an evidence of the importance attached to the tourist business the Mexican Government will soon improve all wagon roads leading from railroad stations to the ruins, thus making them easy of access. A Yucatan tour bureau has been organized by an American steamship line operating between New York and Mexico.

IRELAND.

AVOIDING DELAY AND INCONVENIENCE IN CASHING DRAFTS.

Consul Henry S. Culver, of Cork (Queenstown), says, when calling attention to the fact that Americans arriving in a foreign country often suffer innocently not only mortification but also troublesome delays because of the character of their drafts and bills of exchange:

Many travelers leave their money matters until the last moment, then secure a draft or other bill of exchange payable at a certain local bank abroad and expect to receive the money immediately upon landing. They are not aware that in most cases a letter of instruction must come from the American bank before the foreign bank can cash the draft, consequently payment may be delayed even a week or two. The letter may be sent direct to the head bank in some distant city of which the local bank is only a branch.

The traveler can not be too careful in selecting and receiving such checks or bills of exchange as he is assured will be available upon presentation. If a direct draft upon some particular bank abroad is taken it should be made available at any branch of that bank, or if payable at a certain branch only the traveler should, before leaving home, assure himself that the credit is already fixed at that particular bank. This caution does not apply to holders of certain international checks which are always payable at the places printed on the check and where the credit is always fixed and understood. Some banks issue limited as well as unlimited drafts; one can be cashed upon presentation, the other must await the letter of instruction.

SWITZERLAND.

MOUNTAIN ROUTES STILL POPULAR—ACCIDENTS TO CLIMBERS.

The following information concerning tourists in Switzerland is furnished by Consul Francis B. Keene, of Geneva, from the Gazette des Etrangers, of Lausanne:

The following interesting particulars, showing the number of passengers conveyed over the great Alpine routes in this consular district by the federal postal coaches, have just been published. They show the number of travelers that have used the postal service during each of the two years.

Passes.	1907.	1908.
Simplon Pass	1,216	1,428
Furka Pass	14,257	14,698
Grimsel Pass	5,622	5,548

From this table it will be seen that the Simplon and Furka routes were more used in 1908 than in 1907. This is a good sign, showing that the beauties of these grand, characteristic roads are still appreciated, despite the making of many railways. These figures seem to show that a gradual return to the old way of traveling is taking place; and this is a natural reaction after the novelty of the railways has begun to wear off.

The climbing season of 1909 will long be remembered as a black year for accidents. Up to the present more than 150 climbers have been killed outright or died from the effects of the injuries they sustained in the mountains; and there have been, in addition, a great number of minor accidents in which climbers have been more or less injured. The majority of the victims have been Swiss climbers, among whom were a great many young men. The geographical distribution shows that most of the disasters occurred in the central Alps.

BANKING IN LATIN AMERICA.

DOMINICAN REPUBLIC.

NEW LAW PROVIDES FOR BANKING OPERATIONS.

Consul-General Henry P. Lewis forwards from Santo Domingo a copy of the new banking law of the Dominican Congress. It provides for banks of issue, mortgage banks, and loan banks. Mr. Lewis comments:

Banking business in this country has been confined mostly to buying and selling foreign drafts and collecting bills for foreign houses, and has been carried on by certain of the larger commercial houses in the principal cities. These houses are subject only to the provisions of the commercial code, and are required to pay an annual license tax to the municipality in which they are situated, amounting to $125 in the city of Santo Domingo.

The legal rate of interest is 1 per cent per month, but most credit operations carry a higher rate. Loans on good mortgages generally earn 2 per cent per month. During certain seasons of the year it is difficult to obtain ready money at any rate. It is hoped that the credit institutions which may be established under this new law will relieve such stringencies in the money market and will provide greater facilities for commercial operations in general and assist agriculturists especially, enabling them to borrow outright the money necessary to carry on the cultivation of their crops instead of asking advances from prospective foreign buyers of their crops and being obliged later to deliver the latter at current prices when the market is flooded. [The copy of the new law will be loaned to those interested by the Bureau of Manufactures.]

HONDURAS.

PRESENT FACILITIES INADEQUATE—AMERICAN BANK PROPOSED.

Consul Samuel MacClintock, of Puerto Cortes, mentioning the manner in which the commerce of the Republic of Honduras is hampered through the lack of banking facilities and of paper currency, proposes as a remedy an American bank. He says:

There would seem to be an excellent opportunity to establish a branch of a good American banking house in Honduras. The country has a population of 600,000 or 700,000 inhabitants, and is greatly in need of capital and population to develop its latent wealth. It is rich in deposits of gold, silver, and copper; in forests of mahogany, cedar, pine, and other valuable woods; in bananas, sugar cane, tobacco, corn, rice, and other vegetable products; and in its capacity, as a cattle country, to supply meat and hides cheaply.

During 1908 Honduras imported from the United States $1,946,838 worth of goods, and exported thither $1,540,780 worth. The only bank is the Bank of Honduras, at Tegucigalpa, with a branch at San Pedro Sula, and having a paid-up capital of 417,500 pesos. The bank does little more than a loan business, charging one to two per cent per month. It buys little commercial paper, and sells almost no exchange, having insufficient connections in other countries. Its dividends average 12 per cent per annum, and a large surplus has also been laid aside in addition to this.

Merchants not being able to get paper discounted easily are driven to the purchase of foreign exchange through mining and other companies, sometimes having to pay for a 30-day draft a premium of 270, while remittances within the country cost an average of three per cent through commercial houses, or the money itself often has to be sent overland.

The Government, aware of the desirability of providing better facilities for transacting business, granted in 1908 a very liberal concession to a firm seeking banking privileges here. Owing, however, to some disagreement as to the guarantee deposit the matter is now pending.

It is probable that $5,000,000 of American money is invested in Honduras to-day. The country is only three days from New Orleans and fully 75 per cent of its foreign trade is with the United States. Nearly all the work being done in developing the country is being carried on by Americans. Only a good American bank is needed to bind this market to Americans completely.

[A copy, in Spanish, of the prospectus and concession of the proposed national bank of emission, sent by Consul MacClintock, is on file for consultation in the Bureau of Manufactures.]

PUBLIC LOANS IN EUROPE.

AUSTRIA.

POSTAL BANK INVESTMENT IN GOVERNMENT BONDS.

In regard to a government loan, assumed by the Austrian postal savings department, in conjunction with a group of private banks, Vice-Consul Edward T. Heyn, of Reichenberg, reports as follows:

Of this loan, $26,390,000, the government institution, which took the lead in the whole transaction, receives 40 per cent of the bonds, the Vienna banks a like amount, and the provincial banks of Austria the remaining 20 per cent.

This notable bond issue was organized in such a manner that all the private banks reported to the postal savings department the number of bonds they desired, but the quota in which they were allowed to participate was fixed before the loan was made. The 40 per cent of the issue reserved to itself the postal savings bank intends to devote to its depositors, for, according to its rules, depositors can, if they wish, ask for the investment of their savings in government bonds. In case the private banks sell their whole bonds of the present issue it is possible that the postal savings department will give up the entire or a part of its quota, as it can possibly obtain similar values in future bond issues. It should also be said that the private banks are allowed to retain on deposit the proceeds from the sale of bonds, paying the government 2 per cent for the money.

INVESTMENT OF POSTAL SAVINGS FUNDS.

Besides investing its deposits in government bonds, the postal savings department takes charge of these for safekeeping, and sells the same for the owner. For the bonds purchased the depositor is charged according to the market rate prevailing in Vienna, with an extra charge of 2 cents per thousand on the original sum, but at least 8 cents is deducted from his deposit or check account. Depositors

are not allowed to keep over $406 in the postal savings bank, and a month after notice has been given to withdraw the excess amount the department buys bonds for the surplus. The bonds so bought, unless the depositor wishes otherwise, remain in custody of the postal department. The coupons when due are collected, and if so desired are credited on the depositor's saving account. The person can also demand that the coupons be sent him, or that they be sold. Sales of bonds are made, if possible, on the same day when ordered, but if not, the depositor is duly notified. Depositors can order that bonds bought shall be turned over to other persons.

The postal savings bank collects checks of all kinds for its depositors, mortgages, exchanges foreign coins and notes, and makes loans under the following conditions: It accepts as securities the debentures of the imperial debt, also notes and other securities issued by the Austro-Hungarian Imperial Bank. The loans are made for three months, in ten divisible shares, the least amount being $10.15, and the greatest $5,075; it discounts the values in its possession, if payable after three months; but loans or papers not sold by the Vienna Bourse are excluded. Values or coupons payable in gold, or bonds not deposited in the postal savings bank, are not accepted for discount. A charge of 12 cents on every bond in case of discounting, and 4 cents for every transaction on coupons is made.

GERMANY.

METHODS OF SUBSCRIBING TO PUBLIC LOANS.

In transmitting the following report, Consul Talbot J. Albert, of Brunswick, recommends to the consideration of state, county, and municipal authorities in the United States the system of subscribing to national and state loans in Germany:

The three classes of subscribers to national and state loans in Germany may be conveniently designated as (1) general subscribers, (2) limited-time subscribers, and (3) registered creditors. The time at which the registered creditors can demand their debt certificates or bonds is longer than that of the limited-time subscribers, but they generally leave their names registered, and become permanent investors. The limited-time subscribers obtain their bonds at a trifling discount, while the price paid by the other two classes is the same.

The two classes of special subscribers are considered first in the allotment of bonds before the general subscribers. The advantage to the national and state governments in awarding bonds or debt certificates to subscribers, who agree to a later delivery of them, and to the class of registered creditors, is that these two classes consist of large and small investors and savings banks, desiring permanent securities, while the general subscribers are largely speculators who subscribe for large amounts with the expectation of a profit by selling at an advance. By the distribution of loans among permanent investors the national and state governments are protected from large blocks of stock or bonds being thrown on the market and the price of loans depressed. The advantages to the two classes of special subscribers are that they are not compelled to subscribe to a larger quantity of stock or bonds in order to get what they want, and the certainty of being considered first in the allotment and receiving the full amounts subscribed for.

Registered creditors have the additional advantages that they have no bonds or stock certificates to be stolen or mislaid, and are saved the labor of cutting off coupons and depositing them for collection, the interest on their investments being forwarded at the fixed dates by the national and state treasurers.

EDUCATIONAL PROGRESS.

ARGENTINA.

ENLARGEMENT OF NORMAL WORK BEGUN BY AMERICAN TEACHERS.

The President of the Argentine Republic has issued a decree establishing an important new educational institution in Buenos Aires, to be called the Higher Normal School (Escuela Normal Superior). Its plans are outlined by Consul-General R. M. Bartleman:

The object of this new school is to provide more teachers for the various primary and secondary schools, which are in constant need, with the rapid growth of the school population, of more trained educators. The course in the new school is three years. Only graduates of normal schools or those who have completed similar studies may enter it. The course is very complete, especial stress being laid on mathematics and the sciences, on the history and science of education, and on the art of teaching.

By another decree the President is authorized to establish rural normal schools for both sexes at San Justo, in the Province of Santa Fe; Victoria, in the Province of Entre Rios; Dolores, in the Province of Cordoba; De la Banda, in the Province of Santiago del Estero; Chilecito, in the Province of La Rioja; Rosario de la Frontera, in the Province of Salta; and at Resistencia, in the Territory of the Chaco. It has also been stated that a normal school would soon be established at some point in the Territory of the Chubut, probably at Puerto Madryn. President Alcorta emphasizes in this decree the urgent necessity of providing the rural districts with adequately trained teachers, and of devoting more attention to children of school age in outlying districts. These new normal schools are to be organized and opened as soon as possible.

The present Minister of Public Instruction, Dr. Rómulo S. Naón, is extremely anxious to bring the teaching staff of the Republic to a high state of efficiency, this being a part of his programme of educational reform; and the creation of these new normal schools is understood to be part of a plan now being worked out toward this end. It will be remembered that the first normal schools in Argentina were founded by teachers brought from the United States by President Sarmiento.

PARAGUAY.

FRENCH EDUCATIONAL INFLUENCES IN SOUTH AMERICAN COUNTRIES.

Consul Cornelius Ferris, jr., of Asuncion, reports on foreign educational influences in Paraguay:

There is much favorable notice here of the action of the French schools and universities in facilitating the admission of students from Latin America to their courses of study, by removing certain obstacles and lessening the necessary expenses. Attention is espe-

cially called to the appointment of a committee of patronage in Paris, for receiving and directing students from Latin America, and supplying them with useful data. The secretary can be addressed either in French or Spanish. Two steamship companies, viz, Compañía de Transports Maritimes and Compañía de Messageries Maritimes, have granted reductions to students of 50 and 30 per cent, respectively.

The French minister to Paraguay is highly complimented by the Asuncion press for the part he has taken in the encouragement of Paraguayan youth in seeking the advantages of French educational institutions.

Although Paris is the center of attraction for advanced students from this country, North American teachers and text-book writers, and, through them, North American colleges and universities, have become known to Paraguayans in Paris, and are held in the highest esteem. If the facilities for reaching North America from this country were as common as those for reaching Europe, North American educational institutions would undoubtedly become a center of attraction to Paraguayan youth.

MEXICO.

NEW PUBLIC SCHOOLS IN HERMOSILLO.

Consul Louis Hostetter writes that one of the greatest benefits accruing from the establishment of peace with the Yaqui Indians has been the enlargement and betterment of the public schools in the Mexican State of Sonora. He tells of the new institutions in the city of Hermosillo:

A short time ago a new school for boys was opened in a new building erected at a cost of $22,500 gold, and in February another new building for girls, Colegio de Niñas de Leona Vicario, was dedicated. It cost $32,500, and $10,000 for furnishings. It contains 13 class rooms, also 8 for library, gymnasium, music, etc. Domestic science, sewing, etc., are to be taught. The governor announced at the opening exercises that as the Yaqui troubles were at an end, it was the object of the officials to improve the school system in every manner possible, and that any improvements suggested by the principal or school board would be adopted; in fact, the idea was to make the schools of the State of Sonora the best and most advanced in the Republic. Money formerly used as a war fund against the Yaquis is to be used for the improvement of the schools. Another school is to be erected at a cost of $32,500, or more if necessary. There is an attendance of over 2,300 scholars in Hermosillo, and the schools are maintained at a cost of $40,000.

FRANCE.

HOUSEHOLD DUTIES AND LAND CULTIVATION ARE TAUGHT NEAR ROUEN.

Consul Charles Adam Holder furnishes the following information concerning a movement in Rouen for the bettering of the condition of the poorer classes in that section of France:

The plan of practical education originated among a few rich people two or three years ago, but at present an association has charge of the work. Rouen is surrounded by a large number of farms, where the children rarely have an opportunity of learning

anything of dressmaking, cooking, or housework, as they are occupied with labor similar to that done by the men of the families. At the cotton mills, also, there is a large number of girls entirely ignorant of these useful acquirements. On the other hand, the fathers of these mill hands need something to profitably occupy their spare time, and for these an association has been formed; some of the members have donated, for a nominal rent, various tracts of good cultivable land on the outskirts of the city, and a barn of large proportions has been rented for a lecture and work room. Plots of ground are allotted to the workmen, seeds are given them, and they are shown how to plant and cultivate various vegetables, such as peas and potatoes. Every afternoon the land is cultivated, and in the barn, on Thursdays, Sundays, and fête days, the mill girls are taught cooking in so practical a way as to be able to furnish meals to their fathers who are served in the barn after their garden work is done. On other days and evenings, sewing lessons are given in the barn and the girls taught to make useful garments, to buy the right kind of materials, and to dress properly. They are also taught hygiene, personal and general, while the smaller children, even those as young as 6 or 7 years, are taught sewing and cutting each afternoon from 3 to 5.

The attractiveness of good food and good cooking, it is hoped, will wean some girls from the mill to work as domestics and, on the other hand, the girls of the better class, who do the teaching, will acquire much practical knowledge of housekeeping and patience with servants. Besides these practical courses, Rouen offers a splendid course of free lectures on art and literature and also a free course in languages.

PARCELS POST.

GERMANY.

RATES ON SMALL PACKAGES—AMOUNT OF BUSINESS.

Referring to the fact that the exact date upon which the German post undertook to transport parcels as well as sealed letters is unknown, Consul-General Robert P. Skinner, of Hamburg, says:

In all European countries parcels have been handled by post for so long a time that no arguments for or against this service, such as one hears in the United States, are ever raised. If it should be proposed in Germany to abolish the parcels post (a most unthinkable proposition) loud complaint would, no doubt, be heard immediately from the people of the small towns and the farming population, who ship to the cities their butter, eggs, vegetables, and flowers to actual consumers, thus competing directly with the retail provisioning establishments of every city. Thousands of Hamburg families probably receive their daily pat of fresh butter from the parcels postman, whose existence renders it possible for the farmer in Mecklenburg to visit the city once a year for finding customers, returning to his home with the knowledge that his trade will be served just as conscientiously as though he were located in the heart of Hamburg.

The rates charged by the German Government for the shipment of parcels within its own territory and to Austria, which have been effective since 1873, vary according to the length of the haul. In France an unvarying rate is charged, whether the parcel be trans-

ported 1 mile or 600 miles. Within the limits of Germany and Austria the rate charged for transporting a parcel not exceeding 5 kilos (11.02 pounds) in weight a distance of 75 kilometers (46.6 miles), which constitutes Zone I, is 25 pfennigs ($0.059). Above the distance named the rate for the first 5 kilos is 50 pfennigs ($0.119). When parcels exceed 5 kilos in weight, the original charge for the first 5 kilos increases for each additional kilo according to the following scale:

Zones.	Distances.		Added cost per kilo.	
	Kilometers.	Miles.	Pfennigs.	Cents.
I	Up to 74.2	Up to 46.1	5	1.2
II	74.2 to 148.4	46.1 to 92.21	10	2.4
III	148.4 to 371	92.21 to 230.52	20	4.8
IV	371 to 742	230.52 to 461	30	7.1
V	742 to 1,113	461 to 691.58	40	9.5
VI	Over 1,113	Over 691.58	50	11.9

The first German post was established in 1615 between Vienna and Brussels. The first mention the writer finds in regard to parcels goes back to 1782, when postmasters were required not to accept packages in localities in which contagious diseases prevailed, suggesting that they must have been transported during a long time prior to the year named. The business has continued to increase until it has reached enormous proportions.

The most recent available statistics are as follows:

Year.	Parcels without declared value.		Parcels with declared value (including letters).			
	Total number.	Per capita.	Total number.	Per capita.	Total value.	Value per capita.
1903	197,500,000	3.37	12,361,000	0.21	$4,367,300,000	$74.49
1904	205,400,000	3.46	12,484,000	.21	3,333,028,000	72.83
1905	213,300,000	3.54	12,552,000	.21	4,386,340,000	72.59
1906	220,700,000	3.61	12,914,000	.21	4,489,870,000	73.30
1907	228,000,000	3.67	13,179,000	.21	4,962,300,000	79.73

AUSTRALIA.

POSTAGE AND PARCELS-POST REQUIREMENTS OF THE COMMONWEALTH.

Consul Henry D. Baker, of Hobart, Tasmania, supplies the following information for the guidance of Americans seeking the extension of their trade in Australia through parcels post:

Since the recent postal agreement between England and the United States for 2-cent letter postage many persons take it for granted that a letter can go from the United States to Australia for 2 cents. This mistake causes the recipients much annoyance and expense in payment of penalty postage, the correct rate being 5 cents for every half ounce or fraction thereof.

Many American manufacturers are taking intelligent advantage of the parcels-post arrangement with Australia. As a rule, this is far the most advantageous way of sending goods, when of small bulk, or samples. Sometimes, however, trouble is occasioned by unfamiliarity with the regulations as to what parcels may contain.

Parcels from the United States, via San Francisco, are charged a delivery fee of 6 cents per pound.

The inclosure of letters, paintings, books, cards, engravings, coin, bullion, animal skins, horns, undressed ostrich feathers, grapevines, opium, explosives, and dangerous or offensive articles is forbidden in parcels addressed to places in this country. Gold or silver bullion, precious stones, jewelry, or other precious articles forwarded by registered-letter post will be delivered, but if sent by packet or parcel post will be returned to the country of origin. The importation of tobacco, cigars, and cigarettes must be made in packets containing not less than 20 pounds, except in cases of samples or intended for private use by the importer.

GARBAGE DISPOSAL IN PARIS.

NOTHING IS WASTED FROM THE REFUSE OF THE BIG CITY.

Replying to a St. Louis inquirer, Consul-General Frank H. Mason reports as follows concerning the collection and disposal of ashes and other household rubbish in the city of Paris, and the salvage of bottles, cans, and fertilizing material that is made therefrom:

Household refuse of this kind, known in France as "ordure," is set out in front of houses during the night in tin, zinc, or galvanized iron cans or boxes, whence it is collected in the early morning hours by large wagons belonging to the municipality. For this service an ordinary family living in a flat pays a tax of 56 francs, or $10.80 per year.

The wagons carry the rubbish to quays along the river Seine, where it is dumped upon inclined shoots which carry it onto barges, which are towed to points where the material is to be landed. Both while in the boxes along the streets and on the quay the ordure is exposed to the operations of "chiffoniers," or rag pickers, who sort out and take away rags, paper, and other articles, from the sale of which a large number of men, women, and children gain a living in Paris.

There are several private establishments in the neighborhood of Paris where the household rubbish is treated for the salvage of bottles, glass, crockery, tin cans, bones, etc., but by far the most important of them is at Bondy, about 8 miles east of Paris, on the Canal de l'Ourcq, which connects with the Seine. The establishment is owned and operated by a private company which was organized and took up the business after the government of Paris had failed in its attempt to destroy the city garbage by burning.

The ordure being landed at the wharves in Bondy, is carefully picked over and all rags, bones, old paper, sardine and other cans, metal, glass, oyster shells, etc., which have escaped the hook of the "chiffonier," taken out and assorted for separate treatment. The sardine, fruit, meat, and vegetable cans are cut up for tin, which is used in making toys, for which large quantities of this scrap tin are sent to Germany.

VALUE OF VARIOUS ARTICLES.

The rough bones are used as material for glue, the finer ones for making knife handles, buttons, dominoes, dice, and other articles.

Oyster shells, which are rich in lime and phosphates, are ground into powder which is mixed with grain and other materials to make food for poultry.

The remainder of the rubbish, which consists mainly of ashes and vegetable refuse, is pulverized and sold to farmers as a fertilizer. Owing to its high percentage of potash it is too strong to be used alone; it is therefore mixed with barnyard manure. A carload of these pulverized ashes (6 to 10 tons) is sold at $4 to $6—too low to justify its transportation to any great distance, so it is used mainly within a radius of 30 or 40 miles. The extent of the supply may be inferred from the fact that the establishment at Bondy sends out from 100 to 150 carloads per day.

This industry illustrates forcibly the marvelous talent of the French people for economy in every detail of daily life. Nothing that can fertilize land or serve as material for any form of manufacture is wasted. Even the dust derived by vacuum cleaners in sweeping stores, offices, and dwellings is considered a high-class fertilizer, and sells for about 4 francs, or 80 cents per 100 kilograms, or $8 per metric ton.

ENGLISH BUILDING LAWS.

IMPORTANT LEGISLATION ON HOUSING AND TOWN PLANNING.

Vice-Consul-General Carl R. Loop, of London, writing in regard to the housing and town-planning act passed by the recent Parliament, says that it is regarded as one of the most important pieces of legislation in England in recent years. Previous laws on these subjects have been either superseded or adopted in part by the present law. He continues:

The act is divided into three parts, of which part one, by far the largest and in many respects the most important portion, deals with housing. The Local Government Board, a branch of the national executive government, is constituted the central, and, almost without exception, final authority in all matters dealt with. It may, through local authorities, acquire by forcible means land sites desired for housing purposes, direct the closing or the demolition of insanitary premises, or compel the owners to clean up and prescribe the size of the gardens (yards) and open spaces. The act specifically inhibits back-to-back houses. Formerly (and the law still obtains as to houses not within the purview of this act) the signing of a lease by a tenant relieved the landlord of any further care or responsibility with reference to keeping the premises in repair, provided, of course, the lease did not specifically provide for the same. But now the landlord is legally bound to keep the premises in a condition of repair fit for habitation, which degree of fitness is finally determined by the Local Government Board.

The second part of the act, dealing with town planning, is a new departure in English legislation. Hitherto towns and cities have been permitted to grow in any haphazard fashion, with the result that vast sums of money have been spent in clearing sites, widening streets, and in providing sanitary improvements. Now, however, every scheme for the laying out of a new town or for an extension to one already established must be submitted to the Local Government Board for approval.

The third part of the act has to do with the enforcement of health and sanitary regulations. The office of county medical officer is created, and he must be a physician of standing and may not engage in private practice while holding office. Moreover, he may not be removed from office except for cause. It is his duty and he is invested with the necessary power to require periodical reports from subordinate officials on the state of health and sanitary conditions within their respective districts. He in turn must report to the Local Government Board. It is readily seen how important the medical officer becomes in enabling the Local Government Board to carry out the intent of the act.

There is also provision in this part of the act for the establishment by county councils of public health and housing committees. The housing committee of the London county council has recently recommended the building of 338 flats, cottages, and shops on a site in western London obtained in 1905 for the sumof $14,500, which covers 46 acres. The rents of these buildings will range from 85 cents to $2.50 per week. Hitherto the dwellings provided have ranged from $1.80 to $2.88 per week. The council will spend $362,123 on buildings, and $100,873 on building roads and sewers.

REGULATING CORPORATIONS IN ARGENTINA.

PRESENTATION OF DOCUMENTS TO THE GOVERNMENT AT REGULAR PERIODS.

Consul-General R. M. Bartleman, of Buenos Aires, reports that President Alcorta has just issued a decree substituting certain new provisions regulating the functions of the Argentine Inspector-General of Justice. The chief features of the new decree are as follows:

The presentation of the documents of limited-liability companies mentioned in law 6788 with reference to articles 361 and 362 of the Commercial Code must be made annually within the form and time prescribed by article 24 of the above-mentioned decree. The balance sheet of such companies, with the profit and loss account and the date of meeting, must be presented within 15 days after they have been finally approved by the meeting, together with a copy of the proceedings, and indicating whether the balance sheet submitted by the board of directors has been altered or approved without modifications.

Foreign limited-liability companies which do not handle other money than that proceeding from their shares must present their balance sheets, or a detailed extract thereof, within 60 days of the closing of their year, or within 50 days of the approval of the balance sheet by the shareholders' meeting, which should take place in the headquarters of the company. This option should be communicated to the proper authorities within 60 days of the ending of the year.

Limited-liability companies keeping or managing public funds or money not exclusively derived from their shares must present quarterly, within 30 days, the balances for their operations for the quarter. Banks and limited-liability companies included in article 368 of the Commercial Code must present their balances monthly within the same terms as the companies enumerated in the preceding paragraph. For companies residing outside the Federal District of Buenos Aires these terms expire with the first mail leaving their place of meeting after they have been passed. For companies which may have establishments at other places than where the central board of directors is situated, these terms begin with the departure of the first mail for the central board after the respective 30 days have expired.

This new decree slightly increases the Government's control over the proceedings of such companies while still rendering it easy for such companies to be incorporated in, and to do business in, the Republic, whose Government is ever anxious to attract foreign capital and to encourage its investment therein.

TELEPHONES AND TELEGRAPHY.

AUSTRALIA.

WIRELESS INSTALLATION ON A CANADIAN-AUSTRALIAN MAIL BOAT.

In sending the information that the Canadian-Australian steamer Makura has been equipped with wireless telegraphy, being the first of the fleet to have it installed, Consul-General John P. Bray, of Sydney, comments:

The steamer was fitted in Vancouver by the United Wireless Service Company of the United States, whose head office is at Seattle, Wash. This company is said to be the largest on the Pacific, having 102 wireless stations in the Western Hemisphere and installations on 262 ships. By the Makura's wireless instrument messages are sent and received at a distance of 1,900 miles. On the Makura's last voyage to Sydney complete communication was kept up with Honolulu until the night before the arrival in Suva—a distance of 1,500 miles. Messages are sent for 8s. ($1.95) per 10 words, with 6d. (12 cents) for every additional word.

PHILIPPINES.

GOVERNMENT PURCHASES AN ADDITIONAL CABLE SHIP.

Consul-General James T. DuBois, of Singapore, writes as follows concerning a cable ship and wire connections with Bangkok:

The Philippine government last August purchased the vessel Manilya in Singapore Harbor. It has been overhauled at the docks here under the supervision of the Director of the Bureau of Navigation of the Philippine Islands, and converted into a cable ship. It is a fine ship of 2,250 tons and will only cost, repairs included, about $90,000, its value being estimated by experts at fully $175,000. The vessel goes to Manila with a Philippine crew and carries a large amount of sewer piping from here and 3,500 tons of coal from Borneo, upon which there will be a saving of several thousand dollars.

Singapore has been placed in quicker telegraphic communication with Bangkok. Formerly telegrams for Penang could not be sent direct to that place, but had to be retransmitted at Sungora. Now relays have been placed at Sungora in upper Malay and it is possible to telegraph direct from Bangkok to Penang, about 470 miles.

TURKEY.

USE OF TELEGRAPHIC CODES.

Consul-General Ernest L. Harris, of Smyrna, advises that the prohibition against the use of telegraphic codes in Turkey has been removed and all code messages, except those in cipher, will in future be received for transmission at all telegraphic offices of the Ottoman Empire.

Consul Charles K. Moser forwards from Aden, British Arabia, the following announcement of the Eastern Telegraph Company:

The Turkish Government having agreed to accept telegrams in secret language for transmission over their lines, this company is now prepared to forward such messages to the Hedjaz and Yemen. Telegrams in cipher are not yet admitted by the Turkish Government. Cipher language formed of letters having a secret meaning whether single, grouped, or in series are also not allowed.

ENGLAND.

LONG-DISTANCE LINES FROM LIVERPOOL TO CONTINENTAL CITIES.

Consul Horace Lee Washington calls attention to the fact that it is possible to telephone from Liverpool to Paris (including suburbs), Brussels, and several provincial towns in France and Belgium, adding:

This may be of value to American business men arriving in Liverpool. A list of various towns in connection is obtainable at the Liverpool central post-office. The fee for three minutes' use of the phone with France or Belgium is 8s. ($1.95), except to Bordeaux, St. Etienne, Marseilles, and Lyons, for which it is 10s. ($2.43). For regular service, reduced rates may be obtained at night if one call is made nightly for at least one month for conversations over the Anglo-French and Anglo-Belgian circuits for double periods of six minutes. It is stated by the Liverpool Chamber of Commerce that steps are being taken to establish telephonic communication between this city and Germany.

CANADA.

TELERGAPH COMPANIES INAUGURATE NIGHT LETTERGRAMS.

The Montreal Gazette reports that, on account of the success of the system in the United States, the Great Northwestern and Canadian Pacific telegraph companies applied the service to all points in Canada on March 13, known as the night lettergram service. This means that the two companies will accept night letters for transmission to any of their connections in Canada or the United States for delivery the following morning. Under this rule, a night letter of 50 words or less can be sent at the rate regularly charged for a 10-word message, with a charge of one-fifth the day rates for each additional 2 words. The ordinary mailing service, with the long distances in Canada and the United States, may mean a delay of several days, while by this system letters will be on the desks of the recipients the morning of the night on which they are handed in at the telegraph offices, whether the recipients live in Vancouver, Chicago, or San Francisco.

CANADIAN PHYSICIANS' DECISIONS.

RULE AGAINST IMPROPER PRACTICES—A DOMINION COUNCIL.

Consul Harry A. Conant, of Windsor, gives the following information concerning steps taken by Canadian physicians to safeguard the profession:

That the Ontario Medical Council intends to take a strong stand against cases of improper practices on the part of physicians is shown by two amendments that have recently been adopted by that body. One is that in cases of a physician being convicted in the courts his name may be stricken from the roll without any further investigation by the council. The other is that the executive committee should have power to investigate suspected cases on its own initiative. At the present time it can do so only upon the complaint of four licensed practitioners. The council has set the seal of approval upon the act to establish a medical council for Canada.

SMOKE NUISANCE IN LEEDS.

ENGLISH CITY NEEDS MECHANICAL STOKERS AND DEVICES.

Consul Benjamin F. Chase furnishes the following information concerning the atmospheric impurities in Leeds and the opportunity which such conditions offer to American manufacturers for their eradication:

Leeds complains much of the lack of clear sunlight and pure air. The section most infected is the business portion of the city, as it lies on lower ground than some of the residential suburbs. During the year from November, 1907, to October, 1908, according to tests made by a professor of the University of Leeds, samples of all the rain falling were periodically collected and analyzed. The monthly samples thus collected included all atmospheric impurities, both soluble and insoluble, whether actually brought down by the rain or settling at other times. The solid impurities diminished rapidly as the center of town was left; in the chief industrial center they were twenty times as great as 3 miles northeast. In the business section about 300 tons of soot per square mile reached the ground, and the average was 100 tons per square mile for the district from which samples were taken, about 16 square miles. The center of the city received in 1907 but 83 per cent as much bright sunlight as a place but 4 miles away. The light where the impurities were 1,536 pounds per acre was 40 per cent less than where the impurities were but 146 pounds per acre. The intensity of the light varied inversely according to the amount of solid impurities in the atmosphere.

An effort is being made to get the people interested in some method of eradicating this nuisance which is so injurious to the welfare of the city, besides being a waste which could easily be avoided. The use of mechanical stokers and smoke-consuming appliances afford a practical solution, and American manufacturers of such appliances would receive substantial encouragement for their introduction here, once the people were convinced of their efficacy.

BELGIAN PUBLIC LIBRARIES.

BOOKS WILL NOW BE SELECTED WITH CARE BY A BOARD.

In the following report from Liege, Consul H. Abert Johnson tells of the plans in Belgium to equip public libraries with books of greater benefit to the people:

For some years the provincial council has granted subsidies to certain libraries known as "bibliothèques populaires," organized by provincial communes for the purchase of books. In their selection too decided an inclination was shown for works of somewhat questionable utility, mostly novels and fiction, while the subsidies were granted with the idea that preference would be given to scientific works and those on social and economic questions. In order to correct this the provincial authorities have provided for a competent board to supervise such purchases. It will prepare a catalogue of books, the purchase of which is obligatory on those communes receiving subsidies. In preparing these catalogues the board will be governed in each case

by local needs and conditions, the character of its industries, and the intellectual progress of its inhabitants.

This movement seems to meet with general approval and it is believed that the catalogues will prove especially beneficial in small and isolated townships, where difficulties would often arise in selecting competent persons to purchase books for a public library.

INSURANCE IN CANADA.

BUSINESS OF AMERICAN, BRITISH, AND CANADIAN COMPANIES.

Consul Frederick M. Ryder, of Rimouski, writing in regard to fire and life insurance in Canada, says that American companies, as compared to British and Canadian, carry the least amount of fire risks, and nearly $300,000,000 less than the amount of life policies carried in the Canadian companies. He gives the following data covering the fiscal year 1909:

The face value of fire risks at the close of the year was $1,700,708,263, of which the British companies carried about 57½ per cent, Canadian 25¼ per cent, and American 17 per cent. The premiums received during the year were $17,027,275, of which the British companies had $9,919,403, Canadian $3,819,372, and American $3,288,500. The losses aggregated $10,279,455, the British companies paying $5,776,725, Canadian $2,655,226, and American $1,847,504. Judging from the number of policies in force (British 22,861, Canadian 884,025, American 399,509), British companies covered a class of larger risks and American companies next, while Canadian companies carried the smallest and more widely scattered risks.

While British companies cover the largest amount of fire risks, they are completely outdone by Canadian companies in life insurance. The value of the policies carried by Canadian companies was $480,266,931, American $193,087,126, and British $46,161,957, and the premiums received by the three companies were $16,081,504, $7,069,494, and $1,546,941, respectively. There is no doubt about strong American companies being able safely and conservatively to increase their business in the Dominion; the one thing needful is thorough and systematic canvassing.

PLURAL VOTING IN CANADA.

MUNICIPALITY OF CHARLOTTETOWN HAS A NOVEL ELECTION SYSTEM.

Consul Frank Deedmeyer describes the plural-voting privileges of Charlottetown property owners in the capital of the Canadian province of Prince Edward Island:

In elections of mayor and councilors (aldermen) for the city of Charlottetown all men and all unmarried women above the age of 21 years, having paid prior to the time of holding any such election all rates, taxes, and assessments then due, have a right to give one or more votes. The franchise is limited to those possessing a freehold estate of $100 assessed value or over; to renters of real estate of a yearly rental value of $14; to payers of an annual income tax of $2 and upward, and to those who pay a poll tax of $2 each year. Non-

residents, owners or lessees of real estate in the city, may vote at these elections. A voter thus qualified may vote in the ward in which he or she resides and also in every other ward in which he or she owns or occupies real estate. Under this provision an elector, residing in one ward of the city and owning real estate or being in possession of premises for business purposes in the other four wards of the city, may vote five times at the same election, once in each ward, and he or she votes in each ward for one of the candidates for mayor and for the number of councilors to be elected from such ward.

Voting at these elections is not by ballot, but at polling place viva voce before election officers, who register the choice of the elector, as declared by him or her in public. In case of a tie the returning officer casts the deciding vote. Contests of elections are allowed only if notice of contest be given at each polling place before the closing of the polls. No person can hold the office of mayor or councilor unless he is the owner of unincumbered real estate in the city to a specified value. A councilor is permitted to resign on payment of a fine of $16.

LABOR AND COST OF LIVING.

LABOR EXCHANGES.

GERMANY.

FACULTY FOR ORGANIZATION—METHODS OF OPERATION.

Special Agent Julien L. Brodé, writing from Germany, submits the following report on labor exchanges in that country:

The German Empire embraces only 208,830 square miles, but has over 61,000,000 inhabitants. The wealth of the nation is not only great but is well distributed, more so than in any other country. The living conditions of the masses rank high. One is struck with the desire on the part of almost every workman to save money, and the number of individual bank depositors in Germany is very large. There are a number of small savings banks that accept deposits of 10 pfennigs (2½ cents). In the Province of Prussia about 30 per cent of the inhabitants have savings accounts, and it is said that the number of savings accounts has increased about twice as fast as the rate of increase in population. Travelers are struck by the absence of beggars. The Government does not permit beggars to ply their calling; cripples and persons physically weak are allowed to sell matches, pencils, etc., but are not allowed to solicit alms.

These conditions have not resulted from individual thrift alone. They are more to be attributed to that remarkable trait in the German character, the faculty for organization. This spirit of organization is not confined to Germany's army, concerning which we have read so much, but likewise extends to its steamship lines, railroads, industrial enterprises, export trade, and last, but not by any means least, its labor problems. The organization for solving labor problems is admirable for its effectiveness, and in this respect Germany stands far ahead of any other nation of the world.

NUMBER AND CHARACTER OF EXCHANGES.

There is an Imperial Labor Exchange to which belong about all of the smaller exchanges throughout the Empire. The principal office is at Berlin and is under the supervision of a very able man, Dr. Richard Freund. This national exchange receives an annual subsidy from the Government of $7,500. There are over 700 labor exchanges in the Empire and about 160,000 positions are filled every month. There are seven distinct types of labor exchanges, not including the private institutions which are run for profit and which supply the bulk of the domestic-servant situations. These seven types are as follows:

Commercial exchanges for clerks, etc., chambers of agriculture, guilds, employers, employees, joint employers and employees, and public or general.

The chambers of agriculture are a special development to provide against a chronic shortage of rural labor, especially in East Prussia. The guilds have as a primary object the aiding of small industries employing principally hand work, as against large factory interests. The employers' exchanges, institutions maintained by associations of employers, are more or less open means of combating trade unions or even boycotting individual agitators. The employees' exchanges (trade unions) have just the contrary object. The joint exchanges, employers and employees, are closely connected with the public exchanges. To such joint exchanges belong the well organized and effective printers' and brewers' exchanges. The governing board consists of one-half laborers and one-half employers, and an impartial nonvoting chairman.

The public, or general, exchanges rank first in importance, and it is believed that sooner or later they will absorb all others. These public exchanges at present comprise two classes: (1) Labor bureaus maintained by voluntary associations, with varying degrees of municipal recognition and support; (2) municipal labor registers supported entirely by the municipality. There is one of these organizations in practically every municipality of more than 50,000 inhabitants, and in addition there are many smaller ones.

ORGANIZATIONS IN MUNICH AND STRASSBURG.

All the expenses of the labor exchange at Munich, which is probably the largest exchange of the second class, are borne by the municipality, and there is no charge for registration. This exchange is managed by a committee consisting of three employers, three employees, and an official chairman appointed by the municipality. The three employees on the committee are chosen by the employee members of the industrial court. The latter is a special court of justice which every town of 20,000 people must and smaller towns may have to try cases between employers and employees for wrongful dismissals, nonpayment of wages, etc., and which also serves as an arbitration board for industrial disputes, but has no power to enforce its decisions at law. It consists of an official impartial chairman, or president, appointed by the State, and an even number of representatives of employers and employees, who are elected by all the employers and employees in the town, voting in separate bodies. Industrial courts many times adjust disputes that would possibly lead to severe strikes, and they exert a strong and beneficial influence.

The Strassburg Labor Exchange has, since 1907, embraced a scheme for augmenting, from a municipal fund, the unemployment benefits paid by trade unions to their members. One of the conditions imposed on the recipients of the benefits is that they register regularly at the office of the labor exchange. Able-bodied recipients are required to register daily, and they must accept any offer of suitable work at the current rate of wage on penalty of losing their allowances. All contractors for the city works are bound under stringent penalties to engage all of their labor through the labor exchange.

The Berlin Labor Exchange is the largest institution of its kind in the world. It is not a strictly municipal institution, although it receives an annual subsidy of $11,000 from the city. Its control and financial responsibility are vested in a voluntary association of sub-

scribers who contribute about $2,500 annually. It makes a charge of 5 cents per head for registration, and the annual receipts from this source are about $2,500. In return for this registration fee the applicant is allowed the privileges of the waiting rooms of the building for three months. The annual cost of running the exchange is $16,000 to $20,000.

The total number of applicants during 1908 was 158,000, of whom about 84,000 were placed in positions.

The two large buildings occupied by this exchange were erected by one of the enforced labor insurance companies of the Empire at a cost of about $150,000. The exchange pays the insurance company a rent equivalent to about 3½ per cent on the investment.

OPERATIONS OF THE BERLIN EXCHANGE.

The main room of the exchange is the waiting room, which is large, warm, and well lighted, and is divided by sign posts into sections for unskilled labor, apprentices, skilled labor or various kinds, etc. Men seeking work are supposed to sit in the sections allotted their kind of work.

Repeatedly during the day the superintendent or his assistant comes into the waiting room and announces, before the proper section, the positions that are open. He states the nature of the work, wages, hours, etc., and the men desiring to apply hold up their registration cards, which are collected. Later these men are given cards which they present to their would-be employer, who selects his man, or men, and mails back to the exchange the cards of the other men. This indicates to the superintendent that the men have sought the position. Reports of vacancies come in rapidly during the day, and there is usually much activity around the place.

In the same building are reading rooms, access to which is free; bathrooms, lunch rooms, tailor repair shop, shoe repair shop, and buffet. The prices charged are very reasonable. The men spend their idle time reading, playing checkers, chatting, etc., and, on the whole, seem content. The many conveniences make the exchange rooms something on the order of a club. The positions seek the men, and labor is on sale like any other commodity in a market place. The laborers do not spend wearisome hours tramping about in all kinds of weather seeking employers, and the latter do not have to seek help through various channels, thus losing valuable time and money.

TRADES UNIONS—POSITIONS FILLED—NATIONAL BUREAU.

In the other building are waiting rooms for women seeking employment. The trades unions (not all of the skilled labor is organized) have their headquarters here and run their own labor bureaus in close cooperation with the general public exchange. The printers' union has a very large bureau conducted on about the same principle as the general exchange. Unskilled labor in Germany is not unionized.

It is astonishing to note the number of situations annually found for applicants through the Berlin Labor Exchange. Statistics show that in 1906, 99,000 men were placed; in 1907, 95,000; and in 1908, 84,000. This averages about 65 per cent of the total applicants. Many men find positions themselves through efforts of the exchange which are not accredited to it. It is thought that the Berlin Labor

Exchange will soon be made a completely municipal affair, and the charge of 5 cents per applicant will be dropped.

There are similar labor exchanges at Stuttgart, Munich, Frankfort, Dresden, Cologne, Dusseldorf, Leipzig, Mannheim, Freiburg, Strassburg, and Nuremburg. These are the largest in Germany, but there are numerous smaller ones. Through the 12 enumerated, nearly 500,000 persons annually find employment. Of the 12, nine are supported by the municipalities, and of the remaining three, two (Berlin and Leipzig) receive a subsidy from the municipality. The Leipzig exchange is for unskilled labor only, and the one at Dresden is supported by a voluntary association.

The various exchanges keep in close touch with each other through the Imperial Labor Exchange. Charts are exchanged showing the positions each has listed that are yet unfilled, and the number of persons unemployed, and nature of the work each desires. When it is necessary and justifiable, the traveling expenses of laborers are paid from one section to another, but this is not encouraged, as it easily leads to abuse. The State, which owns the railroads, allows workmen traveling to accept positions a big discount on their tickets. The thorough organization of these exchanges throughout the empire prevents what frequently happens in the United States, a surplus of unemployed labor in one section, and at the same time a labor famine in another.

ATTITUDE OF EXCHANGES DURING STRIKES.

The usual position taken by the labor exchanges during a strike is to notify the men registered of the positions made vacant, but, at the same time, to inform them fully of the strike conditions. Usually there is posted in a conspicuous place in the waiting room of the labor exchange a notice that the strike is taking place and in what section. The laborer can decide for himself just what he wishes to do. Some small local exchanges take sides in strikes. If they close down, they show partiality to the strikers; if they remain open, they show that they favor the employers.

The labor exchanges in Germany are playing an important rôle in the industrial and economic advancement of the Empire. They bring the buyer and seller of labor into immediate communication. The waiting-room plan takes idle men off the streets, thus having a strong tendency to reduce crime. It enables men already employed, but on temporary jobs, to seek other positions while they are still engaged, thus bridging over, in many cases, a period of idleness. Men in positions unsatisfactory to themselves can seek better ones without leaving their places. This is done by registering with the labor exchange their applications, which state their capabilities, references, addresses, etc., so employers can readily communicate with them. The employers, through the labor exchange, have a wider range of material from which to select, and their individual needs can be quickly satisfied, if not through the local labor exchange then through a distant one, which will receive notice of the vacancy and the kind of man or men wanted. The arbitration boards are the means of preventing many wasteful strikes, and this is well worth the subsidies voted to maintain the exchanges.

SIMILAR WORK IN OTHER COUNTRIES.

On March 14, 1904, the French Senate passed a law creating a national labor-exchange system that operates in every commune hav-

ing more than 10,000 inhabitants. By this law France extended the field of industrial institutions, which had already justified their existence.

On February 1, 1910, England adopted a system of national labor exchanges closely patterned after the German system. The English system embraces 11 divisional clearing houses, which are the centers for industrial districts into which the United Kingdom has been divided. There are some 30 first-class exchanges in manufacturing towns of over 100,000 population, a similar number of second-class exchanges, and a lesser number of third-class exchanges and suboffices. Towns of 50,000 to 100,000 population have second-class exchanges. The third-class exchanges are installed in smaller towns. Suboffices are placed in industrial townships that have a common center in a larger town possessing a first-class exchange, and the latter supervises the work of the district.

There are now (March 31) about 100 English exchanges. The number of vacancies notified since February 1 was 32,500 and the situations filled 19,907. At present there are 104,000 names on the registers. More situations, it is said, could have been filled, but the exchange managers state that they wanted to recommend only suitable men, so that the prestige of the exchange would grow in the minds of the employers. The cost of maintaining these labor exchanges for the year, it is estimated, will be about $655,000. The experiment has not been conducted long enough in England to show much result. It takes time for both the employers and the employees to become accustomed to communicate with one another through the labor exchange. In Germany the institution was the outcome of a natural development; in England the system was planted suddenly in its entirety. It is feared in some quarters that the people have been led to expect great things of the labor exchanges too soon, and that the exchanges will be subject to unjust criticism from some sources before they can secure a firm foothold and get to working smoothly.

[Booklets, registration cards, annual reports, photographs, etc., of various German labor exchanges are on file for public reference in the Bureau of Manufactures.]

FRANKFORT.

A FRENCH EXPERT ON GERMAN EMPLOYMENT BUREAUS.

A report on the investigation of the workingmen's employment bureaus in the leading cities of Germany by Charles Picquenard, for the French Minister of Labor, is summarized as follows by Consul-General Richard Guenther, of Frankfort:

The success of the German public employment bureaus far surpasses the activities of the municipal employment bureaus of France. This success is attributed, in the first place, to the well-balanced character of the establishments, in whose management employers of labor and employees possess equal influence. The most important aim of the public employment bureaus is the centralization of the labor market, with reference to place and vocation. Naming certain hours for the several trades prevents crowding of the bureaus and is characterized a splendid innovation. M. Picquenard was further impressed with the fact that the German employment bureaus do not wait to be asked for work, but seek applicants and encourage them

by prospectuses, placards, and "want" advertisements, which reveal the fact that the bureaucratic principle in the management of the public employment bureaus in Germany is reduced to a minimum; they are managed more as a commercial enterprise. As special points of superiority of the German system, M. Picquenard mentions the liberal use of the telephone, the reduction of railway fares for those who find work through the agencies, and finding employment for skilled labor.

M. Picquenard says that the trade unions were at first indifferent, at least, toward the public employment agencies, but now see in them the best probable solution of procuring work for the unemployed, but at the same time they adhere to their union organizations and rules as the best manner of controlling their members in strikes and lockouts and of strengthening their position in general.

The Frankfurter Zeitung says that this opinion of a thoroughly expert foreigner deserves special attention, in view of the recent assaults upon the public employment bureaus.

ENGLAND.

GREAT INTEREST MANIFESTED IN THEIR EFFICIENCY.

Consul-General John L. Griffiths, of London, furnishes the following statistics covering the workings of the recently established labor exchanges of the United Kingdom:

The total number of exchanges at the end of March was 93, most of which were opened early in February, or soon thereafter. The following table, compiled from the British Board of Trade Labor Gazette, shows, by trades and callings, the vacancies notified and filled during February and March, and the applications by the working people remaining on the registers at the end of each month:

Trades.	Month of February.			Month of March.		
	Vacancies.		Applications remaining at end of month.	Vacancies.		Applications remaining at end of month.
	Notified.	Filled.		Notified.	Filled.	
Building and works of construction	2,068	1,665	14,493	4,352	3,602	9,909
Metals, machines, implements, and conveyances	2,989	1,939	16,875	3,665	2,757	13,877
Textiles	1,523	492	3,097	1,652	837	2,437
Dress	2,436	646	2,618	3,083	1,023	2,072
Conveyance of people, goods, and messages	2,361	1,780	19,021	3,444	2,637	16,402
Agriculture	338	180	1,671	624	408	1,248
Paper, prints, books, and stationery	552	327	1,787	658	408	1,680
Wood, furniture, fittings, and decorations	694	357	2,773	1,144	729	2,235
Food, tobacco, drink, and lodging	1,088	595	5,544	1,423	940	5,068
Skins, leather, hair, and feathers	204	75	525	226	114	437
Bricks, cement, pottery, and glass	221	119	689	345	129	593
Precious metals, jewels, watches, instruments, etc	180	82	887	201	124	793
Commercial	1,328	689	4,637	1,945	966	4,556
Domestic (outdoor)	1,344	919	5,729	2,171	1,579	7,651
General laborers	1,568	1,383	20,834	2,465	2,222	14,908
All other	2,299	1,380	1,244	2,306	1,920	7,246
Total	21,193	12,628	112,424	29,704	20,395	90,627

The number of applications and the class of applicants registered during the two months were as follows: February, 216,813, composed of 179,062 men, 14,479 boys, 18,961 women, and 4,311 girls; March, 126,119, viz, 95,242 men, 9,822 boys, 17,246 women, and 3,809 girls. These numbers do not include renewals, but do include reapplications by persons whose applications lapsed or had been canceled. Through return of application cards it is known that large numbers of applicants obtained employment through other channels.

THE EXCHANGES GROWING IN PUBLIC FAVOR.

One gratifying feature of the work done by the exchanges is that in March 20,395 situations were secured through their medium, as against 12,628 in February. The proportion of vacancies filled to the number of those notified to the exchanges rose from 60 per cent in February to 69 in March; the per cent of applicants in March was, men, 75; boys, 67; women, 53; girls, 56.

Two significant things are shown by the foregoing paragraph (1), the effect of the revival of the building trades with the passing of winter, and (2) the difficulty of finding employment for general laborers, as distinguished from those who have mastered trades. Even more difficult than finding employment for general laborers was the difficulty in filling the vacancies for men in boot and shoe manufacture and for women and girls in the textile and clothing trades.

It is beginning to be realized that the labor exchanges, to a very great extent, advance what the employer was formerly required to do, viz, ascertaining the capability of the man or woman for the work that is needed to be done. Instead of relying upon a chance applicant at the factory door or depending upon answers to newspaper advertisements, the employer, through the labor exchanges, is brought quickly into direct contact with a man or woman whose capabilities, to a certain extent, have already been ascertained.

NOTTINGHAM.

FAULT FOUND BY EMPLOYERS WITH LABOR-EXCHANGE REGISTRATION.

Consul Frank W. Mahin furnishes the following information in regard to objection made to the registering by the exchange in Nottingham of the higher classes of skilled English workmen and of persons already employed:

It is suggested that the exchanges be limited to working people who earn, say, 30 shillings ($7.30) or less a week and to those who are actually unemployed. For the Nottingham exchange, however, it is argued that as five times more skilled than unskilled workmen are being placed in employment, to make such restriction would seriously limit the work of the exchange as well as inconvenience employers who need skilled labor; that as all classes contribute to the cost of the system, all should benefit. As to registering only unemployed, it is contended that a chief object is to assist a workman to continuous employment; that if his job is to end at a given time, he ought to be helped to secure another to begin when the first is finished; and that if only the unemployed could register, the employer must be placed on a similar footing and be allowed to register only

if his machine were idle. The objection cited comes from employers who are disturbed at the possibility of losing valued and high-class employees, who may register at the exchange in the hope of getting something better than they have.

GLASGOW.

PLANS FOR PREVENTING FUTURE LABOR CONGESTIONS.

Vice-Consul Thomas R. Jones writes that the Glasgow exchange has, in addition to its regular routine work, begun a campaign of an educational nature, looking to the amelioration of labor conditions during the next decade.

Through the school boards and parents of children the officers of the exchange are working with a view of influencing children to take up avocations that are not too crowded. For example: In Glasgow the bakers' trade is greatly overcrowded and a baker who is middle-aged and knows no other business is considered as practically an "unemployable." On the other hand, it is difficult to secure a sufficient number of motor-car body builders. The theory of the exchange is that the son of the baker should be induced, instead of drifting into his father's calling, to take up some trade in which there will be a constant and growing demand for his services, and considerable pressure is being brought to bear on young people to apprentice themselves in such a manner as to be fully abreast of changing commercial conditions and to be independent of government assistance.

[The vice-consul also details the method of procedure in the Glasgow labor exchange, together with a set of the blank forms used, all of which are filed for public reference in the Bureau of Manufactures.]

MANCHESTER.

SUCCESS OF THE SYSTEM IN MANCHESTER.

In reporting on the work accomplished by the new labor exchanges in Manchester, Consul Church Howe says:

In this new government department figures can not be given, the regulations forbidding their publicity, but such has been its success that practically every employee who has used the exchanges testifies to their utility, and the work has so developed that new exchanges will soon be opened. When it is remembered that these labor exchanges have only been established about five weeks, the results achieved are most promising.

It was thought at first that only a poor class of labor would register in these exchanges, but the class of men registered has been good, and I am reliably informed that all demands for skilled labor have been met thereby.

CANADA.

CONSIDERABLE GAIN IN NUMBERS OF WORKERS' UNIONS.

The following statistics concerning labor organizations in Canada, taken from official returns, are furnished by Vice-Consul-General Ross J. Hazeltine, of Halifax:

The Dominion department of labor states that the total number of labor organizations formed in Canada during 1909 was 162, while

during the same period 90 organizations were dissolved. This represents an actual increase of 72 in the number of organizations in existence.

In 1909 there were increases in the number of organizations in all industries and trades, except lumbering, leather, and general transport branches, in each of which there was a net loss of 1. The number remained unchanged as regards textile trades and street railways employees. The largest gain, 17 unions, was among railway employees.

Ontario, being the leading industrial province, leads the list in 1909, as in former years, in the aggregate number of organizations formed and dissolved, but Ontario no longer leads the provinces in the largest net gain. Nova Scotia and Alberta lead in this respect, each showing a net gain of 17 unions in 1909, although neither of these provinces is considered a leading industrial or trades center. Ontario takes second place, with a gain of 15, and Saskatchewan third, with a net gain of 14 organizations. The increase in the number of unions in Nova Scotia is due to the organizations of miners.

WAGES AND PRICES.

AUSTRIA-HUNGARY.

PROPOSED PROHIBITION OF NIGHT WORK BY WOMEN.

A bill recently introduced in the Austrian Parliament aims to abolish certain forms of night work now being performed by women in Bohemia and elsewhere in Austria. It is explained by Consul Joseph I. Brittain, of Prague:

The measure refers to establishments where upward of ten workmen are employed, and forbids the employment of women and girls between the hours of 8 p. m. and 5 a. m. All women and girls working in manufacturing establishments must be given at least eleven hours of uninterrupted rest. The employment of girls under 16 years of age is forbidden, excepting where there are eight-hour shifts, but farming, gardening, and forestry will have a special law regulating the employment of female labor in these branches.

There will also be certain exemptions in the manufacturing lines to provide for unexpected breakdowns of machinery, and where perishable products are being manufactured. The present law regulating the employment of female labor in raw sugar mills will remain in operation until 1918.

At present girls and women are employed to perform general farm work, such as attending cattle in the stables, assisting with the thrashing, scattering manure, hauling water, etc. They are also employed at brickyards, where they haul clay and other materials, and as assistants to masons where buildings are being erected. As farm laborers they are paid 60 to 120 crowns ($12.18 to $28.42) a year, including plain boarding.

ITALY.

PAY OF WORKERS AND COST OF LIVING AT TURIN.

Consul Albert H. Michelson, in his annual report for 1909 covering the trade and commercial conditions of Turin, gives the retail

price of 11 articles of foodstuffs for the past four years, and also the daily wages paid to six classes of workmen in that section of Italy.

Regarding the cost of foodstuffs, the advance in the price of meat is most noticeable, increasing from 13.13 cents in 1906 to 19.31 cents in 1909, the rise occurring during 1908 and 1909. All articles showed an increase in price in the four years, with the exception of butter and potatoes. The several articles and cost thereof are as follows:

Articles.		1906.	1907.	1908.	1909.
		Cents.	*Cents.*	*Cents.*	*Cents.*
Bacon	pound..	15.82	16.63	17.51	17.51
Bread	do....	3.06	2.98	3.06	3.50
Butter	do....	28.88	28.00	28.88	28.52
Eggs	dozen..	22.88	23.97	24.20	26.59
Flour:					
Corn	pound..	2.19	2.10	2.19	2.32
Wheat	do....	3.06	2.98	3.06	3.50
Macaroni	do....	4.55	4.64	4.48	4.66
Meat	do....	13.13	13.13	16.63	19.31
Milk	quart..	5.09	5.09	5.09	5.20
Potatoes	pound..	1.05	1.05	1.14	1.05
Rice	do....	3.85	3.85	3.85	4.08

In the matter of wages, the highest paid workmen are smiths, who receive 77 cents to $1.35 per day, while assemblers are paid 77 cents to $1.15, casters 56 cents to $1.15, turners 48 cents to $1.15, bricklayers 84 cents to $1.06, and fitters 54 cents to $1.06. The highest wages paid to corset makers is 52 cents, and the lowest to tailor apprentices, who receive 7 cents per day. The different trades with the wages paid per day of 10 hours, except in the cases noted, are shown in detail in the following statement:

Class of workers.	Daily wages.	Class of workers.	Daily wages.
Bakers:		Mechanics:	
Master bakers	$0.93	Smiths	$0.77 to $1.35
Bakers	.67	Fitters	.54 to 1.06
First helpers	.53	Assemblers	.77 to 1.15
Second helpers	.43	Turners	.48 to 1.15
Bricklayers: [a]		Planers and drillers	.54 to .81
Bricklayers	$0.84 to 1.06	Helpers	.35 to .96
Helpers	.62 to .77	Spinning and weaving, cotton (women): [c]	
Apprentices	.40 to .52	Spinners	.34 to .39
Carpenters: [b]		Weavers	.36 to .46
Master carpenters	.77 to .97	Tailors (women): [c]	
Carpenters	.58 to .74	Corset makers	.52
Helpers	.29 to .58	Helpers	.23
Apprentices	.10 to .29	Shirt makers	.50
Founders:		Helpers	.23
Casters	.56 to 1.15	Finishers	.58
Molders	.39 to .77	Helpers	.28
Cleaners	.58 to .96	Apprentices	.07
Helpers	.54 to .69		

[a] For a day of 12 hours, 50 per cent extra, and for more than 12 hours, 100 per cent.
[b] For a day of 12 hours, 25 per cent extra.
[c] Per day of 10½ to 11 hours.

NORWAY.

WHOLESALE PRICES IN CHRISTIANIA.

Consul-General Henry Bordewich, of Christiania, furnishes the following wholesale quotations for provisions and breadstuffs at the capital of Norway which prevailed at the close of February:

Provisions, per 2.2 pounds, in American cents: Rio coffee, 26.9 to 27.6; Santos coffee, 27 to 28; Java coffee, 48.2; German sugar, light,

14½; granulated sugar, 14½; crushed sugar, 15; sirup, 3.2 to 8; butter, 44.2 to 53.8; margarine, 28 to 40; pork, shorts, 27½; salted hams, 37½; lard, 25.2; beef, 13½ to 21½; mutton and veal, 18.7 to 26.8; codfish, salted, 16.

Breadstuffs, per 220 pounds: Flour, $6.43 to $7.10; rye meal, $4.25 to $4.50; barley, $4.25; potatoes, $1.47 to $1.61; milk, per quart, 4.8 cents.

By adding 30 to 35 per cent to the foregoing, the average retail prices will be reached.

ENGLAND.

WAGES IN THE BUILDING TRADES.

A late report by the Board of Trade showing the earnings of laborers in the building and woodworking trades in the United Kingdom is summarized as follows by Consul Benjamin F. Chase, of Leeds:

The total number employed in these trades in 1906 was about 1,250,000, of which about 1,000,000 belong to the different branches of the building trade. The average net earnings per man during that summer were $7.66 per week. The average full-time earnings of all men were $8.03, for skilled workmen, $8.84, and for ordinary labor, $5.94. In the harbors, docks, sewers, etc., the average full-time earnings of men were $7.74. In the sawmills, machine joining, and box and packing-case making industries, $6.59. In cabinet-making and allied trades, $8.03. The average wage in the building trade has advanced about 18 per cent since 1886.

In Leeds the hours of labor and rate of wages in these trades in 1909 were as follows:

Employment.	Hours.	Rate.	Overtime.	Employment.	Hours.	Rate.	Overtime.
Bricklayers	49½	$9.53	1¼ to 1½	Plasterers	49½	$9.53	1¼
Cabinetmakers	49½	6.60	1¼ to 1½	Plaster laborers	49½	7.02	1¼
Joiners:				Plumbers	49½	7.57	1¼ to 1½
Summer	49½	9.03	1¼ to 1½	Polishers	52½	8.51	.....
Winter	41½	7.57	1¼ to 1½	Slaters and tilers	50	9.12	.....

The building trade is very quiet here this season.

BRADFORD.

SETTLEMENT OF THE WOOL COMBERS' STRIKE.

Consul Augustus E. Ingram furnishes the following information concerning recent labor disputes in Bradford and their satisfactory settlement through the good offices of the mayor of that English city:

The Bradford wool-combing industry has just passed through a serious crisis, on account of disputes between the employees and employers, which resulted in the stoppage of work of about 7,000 men and women. Complaints concerning working time and rules being made by the employees and denied and left unsettled by the employers, a strike for the rectification of such complaints and for better wages was determined on. Conferences between the parties directly concerned having failed to bring about a settlement, the

mayor, in view of the fact that the strike threatened to cripple all branches of the textile trade at a time of increasing prosperity, took prompt steps to effect a conciliation, and by his counsel and tact finally brought about a settlement satisfactory to both parties. In addition to arranging for the settlement of the other complaints of the workers, an immediate advance of 12 cents per week for all receiving less than $3.65 per week, and an advance of 24 cents per week for all receiving that or a larger wage, was secured, together with an equal advance, to those mentioned, to begin on August 5, which means an advance of 24 and 48 cents per week to the foregoing wage earners.

The weekly wages paid previous to the dispute by one of the leading firms paying the highest local rates to day workers per week of 55½ hours and to night workers per week of 58¾ hours, were as follows:

Description.	Day work.	Night work.
Washhousemen	$5.11 to $6.08	$6.08 to $6.93
Carding-room boys	3.40 to 4.38	5.23 to 5.59
Carding-room men	5.60 to 6.57	6.08 to 6.57
Combing-room girls and women	3.04 to 3.53	5.84 to 6.32

The employees in the spinning mills, 90 per cent of whom are women and girls, recently demanded an advance of 24 cents per week in their wages, the wages for full timers amounting to about $2.68 and for half timers to one-half that wage per week. Some mills granted an advance of 12 cents to full timers and 6 cents to half timers, while the others have the matter under consideration.

INCREASED COST OF PORK AND MEATS.

Consul Church Howe, of Manchester, reports rising prices last year in the British bacon and ham trade, due mostly to bad harvests in corn and other feed-stuffs. Packers claim that it cost $16.55 per cwt. (112 pounds) to produce Cumberland cut bacon, or $4.38 to $4.86 over the prices of 1908. Irish pigs cost $15.09 per cwt., and the curers demand $18 f. o. b. Ireland, leaving a small margin of profit. Pigs in England sell at $3.04 per 20 pounds. The high price of bacon has brought considerable Dutch meat into the market, and this bacon is firmer and milder than previously. China has been sending her product, and although the bacon is sound and sweet, it is not popular.

IRELAND.

WAGE EARNINGS OF ISLAND WORKERS.

Consul Henry B. Miller writing from Belfast, states that wages of farm laborers in Ireland range from $1.68 to $2.16 per week with board and lodging; without either board or lodging the wages are $2.64 to $3.75 per week with a reduction of 24 to 48 cents per week in winter.

During 1909 the Scottish Council for Women's Trades sent a representative to Belfast and north of Ireland to investigate the wages and conditions of home workers. Several trades were examined, such as the making of embroidery, table linen, handkerchiefs, pillows, etc. The wages in none of these trades exceeds 2 cents per

hour, and with steady work the earnings reach only $1.68 per week. Factory hands earn on an average $3.36, and skilled workmen $4.86 per week. Children not over 7 years old were found working 12 hours a day.

The wages per week of 54 hours of the principal occupations in Ireland are as follows:

Occupation.	Weekly wages.	Occupation.	Weekly wages.
Bricklayers, masons, carpenters, plumbers, and plasterers	$9.36	Cabinet-makers	$8.76 to 9.03
Painters	8.76	Upholsterers	8.76
Fitters and smiths	9.00	Polishers	8.76
Turners	9.24	Weavers (women)	2.19 to 3.64
Pattern-makers	9.48	Winders (women)	2.19 to 3.16
Compositors	8.26	Spinners (women)	2.19 to 2.91

During 1909 about 22,000 persons left Ireland temporarily for England and Scotland to assist in gathering the crops. These laborers receive 50 to 75 cents per day of 10 hours, and have fuel and shelter furnished. They usually save $60 to $100 in a season.

MALAYSIA.

REGULATIONS FOR EMPLOYMENT OF COOLIES ON PLANTATIONS.

Consul-General James T. Du Bois, of Singapore, supplies the following information concerning rubber plantation labor in Malaysia:

It is a good day's work for a coolie to collect and deliver 5 pounds of rubber. One coolie can take care of two acres of rubber trees where the trees produce no more than 250 pounds to the acre. One good coolie should be able to deliver 500 pounds of rubber a year where the trees are young, say 5 years old. This labor is of prime importance in rubber culture, and all rubber countries are anxious about obtaining it at the right time. The Javanese government has prescribed sharp restrictions on the contract service of coolies going into the Malayan rubber plantations. The coolie must receive an advance for his transportation, which he pays back in monthly installments of about 64 cents. He contracts his services for 900 days, each day to consist of not more than nine hours of actual labor. He need not work more than six consecutive hours, and never more than six days in a week. For extra time he receives 50 per cent extra pay. His pay is 13½ cents per day. A female coolie only gets 8 cents.

The following rations are allowed to each coolie: Raw rice, 1⅓ pounds; fish, 6 ounces; vegetables, 6 ounces; onions, 1 ounce; condiment, 1 ounce; salt, 1 ounce; cocoanut oil, ½ ounce; green chillies, 1 ounce; fresh cocoanut, 1 ounce. The coolie is supplied with house accommodations, water, sanitary arrangements, hospital accommodations, medical attendance, medicines, and the above-mentioned rations free. Out of the 900 days contracted for he is allowed 90 days for sickness, for which he receives half pay. The coolies must be sent back to Java at the expiration of their term of service. Children under 10 years receive one-third rations free whether they work or not.

CANADA.

PROPOSED MINIMUM WAGE SCALE FOR NOVA SCOTIA.

The plan for carrying out a minimum scale of wages in Nova Scotia is explained in the following report from Consul John E. Kehl, of Sydney:

The question of a minimum wage rate to be paid by all employers of labor in the city of Sydney had its origin during the early part of October, 1907. At that time the city council passed a resolution that a special committee of citizens be appointed to inquire into the matter of the cost of living and, in that connection, to meet the management of the Dominion Iron and Steel Company (Limited), of Sydney, for discussing the rate of wages paid by them and the bearing their scale of wages had upon the cost of living in this city. The meeting of the special committee and the corporation did not take place.

The question of wages and cost of living was permitted to rest until March 17, when the city council passed a resolution entitled "An act regulating the rate of wages to be paid by corporations." This action met with considerable opposition, culminating in the presentation of a petition, signed by manufacturers, merchants, and bankers, asking for a special meeting of the city council for reconsidering the resolution and giving all concerned an opportunity to be heard. The special meeting was held on March 22, with the result that the original resolution was amended. The act in its original form would have affected Sydney only. As the act now stands, in the hands of the provincial legislature for final action, it reads as follows, the last three clauses constituting the amendment:

Whereas the wages paid by industrial concerns in the city of Sydney is inadequate to meet the increased cost of living: Therefore be it enacted by the Governor-in-Council that a minimum rate of wages obtain in the city of Sydney, and that said minimum rate of wages be that adopted by the city of Sydney as the Fair Wage Schedule;

That no corporation, partnership, or other employer of labor in the city of Sydney shall, after the coming in force of this act, pay less wages or salary to any employee than such minimum rate of wages; and that an employee of any corporation, partnership, or other employer of labor may recover in an action at law, as wages, a sum not less than said minimum rate of wages;

That the Dominion Government fair wage schedule be applicable to all employers of labor throughout the Province of Nova Scotia.

This act shall not apply to apprentices or minors or persons incapacitated by age or any other physical disabilities from performing a full day's labor.

This act shall come into force July 1, 1910.

The following is the Fair Wage Schedule duly approved by the Sydney Trades and Labor Council, under which no employee is to work more than nine hours a day:

Trade or class.	Minimum rate.	Trade or class.	Minimum rate.	Trade or class.	Minimum rate.
Bricklayers	$0.45	Painters	$0.25	Excavators	$0.17½
Masons	.40	Electricians	.25	Blacksmiths	.27½
Stonecutters	.45	Tinsmiths	.27½	Molders	.27½
Carpenters	.27½	Building laborers	.22½	Machinists	.27½
Plumbers	.30	Ordinary laborers	.17½	Pattern makers	.27½
Plasterers	.40	One horse and driver	*2.50	Tailors	.27½
Steam fitters	.30	Double team	*4.00		

* Per day.

RISE IN COST OF LIVING IN NOVA SCOTIA.

Consul-General James W. Ragsdale, of Halifax, states that a fair indication of the rise in the cost of living in Nova Scotia is given in

the statement of a member of the Nova Scotia legislature recently. The management of the Victoria General Hospital made out a facsimile of a large order given a few years ago and sent this to the different persons who at that time entered into competition for the supplies to the hospital. This inquiry disclosed that for every $100 paid in 1902 and 1903 the price for the same quantity of goods had risen in 1907 or 1908 to $160.

UPLIFT WORK IN ENGLAND.

BIRMINGHAM'S PUBLIC SWIMMING BATHS, OUTING CLUBS, AND LECTURES.

Responding to the request of an American society devoted to the improvement of living conditions in cities, Vice-Consul Arthur V. Blakemore renders an account of some of the English organizations supplying recreation facilities gratuitously to the people of Birmingham:

There are six first-class and six second-class municipal swimming baths in Birmingham. The latter are reserved two mornings a week for school boys and one morning for school girls, who must go in the charge of a teacher, and are admitted and provided with one towel each for the nominal charge of 1 cent. As soon as a child can swim one length of the bath he or she is given a certificate, signed by the teacher and the chief engineer of the baths, and a free pass which will admit him or her into any of the second-class corporation baths up till 7 o'clock in the evening and Saturday afternoons (Sunday mornings excepted). This pass can be renewed every year as long as the child remains at school and for two years after.

The charge for adults for the second-class swimming baths is 4 cents, but if a club is formed a special book of tickets can be purchased which reduces the charge for admission to 2 cents. The charge for first-class swimming baths is 12 cents.

THE COUNTRY HOLIDAY ASSOCIATION.

The Country Holiday Association sends 1,800 to 2,000 poor children every year into the country for a fortnight. The children are selected chiefly from the council schools and on recommendation of the school mistresses and ladies of the committee who visit the schools periodically, preference being given to sickly and the poorest children. The children of parents who can afford it contribute 1 to 2 cents and in some cases as much as $1 a week toward the holiday, while the total cost to the association per child is about $3.15. The children are lodged in country cottages, but the boys of 14 are sent in charge of a school teacher (who gives his services) and camp out or, perhaps, stay at large farmhouses. The association has an annual income of about $390 from a bequest investment, and this year a Birmingham newspaper is contributing $850 on condition that it shall have the nomination of a certain number of children; the rest of the money is provided by voluntary contributions.

STREET CHILDREN'S UNION—SUMMER CAMPS.

The Street Children's Union was formed about four years ago to bring personal influences on the slum children while still impressionable and capable of responding to character-forming influences. This is done by dealing with children in groups sufficiently small to

persons and more than 300,000 games were played. A small charge is made for some of the games, such as billiards, bagatelle, air gun, and cards. It is required, for example, that a member shall pay 1 cent for the use of playing cards, and 1½ cents for 20 minutes' play on a billiard table. Saturday evening concerts, attended by 500 to 600, form one of the most popular features of the club work. It has been found that members of the public are more likely to be attracted to a building associated with the civic life of the community than to one identified with any form of life which make the users recipients of charity. Another successful factor in the club movement is that the members are enabled to act independently; to do in fact exactly as they like. The management is by a committee drawn entirely from those patronizing the clubs, the members of which act as stewards. There is little doubt, it is stated, that "the phenomenal success attained is due largely to the fact that it is worked for workers by workingmen."

SUNDAY LECTURES—FREE CONCERTS.

The Sunday Lecture Society provides Sunday evening addresses by popular lecturers, upon any subject of interest, not political and not religious, and music. Admission is free; but the society has about 600 members paying 60 cents and there is a collection at each lecture. Generally speaking, expenses are not defrayed, and the deficit is made up by voluntary donations. These lectures are held fortnightly in the Town Hall of Birmingham, and in ten council schools during the winter. At twelve meetings in the Town Hall 25,500 people were present and at 110 meetings in the council schools the attendance was about 33,000.

While there are many more charities furnishing recreation, the foregoing are perhaps the largest. During the winter months there are many hundreds of free concerts given in Birmingham, and at the Town Hall there are frequent free organ recitals.

EMIGRATION AND IMMIGRATION.

UNITED KINGDOM.

MOVEMENT FROM ENGLAND TO BRITISH COLONIES.

Supplementing his recent report on the extensive English emigration from the Nottingham district, especially to Canada, Consul Frank W. Mahin now writes:

Later information is to the effect that over 30,000 people will have left this country for Canada this spring, and that by the end of summer the number will be above 50,000. There is also a large emigration to Australia—smaller than to Canada, but increasing over that of preceding years. A special effort is made to induce female domestic servants to go to Australia, prospects of higher wages and of marriage being held out. In some cases it is stipulated that the women must be between 18 and 30 years of age, and of good character. Invitations to emigrate to Western Australia are coupled with the stipulation that married men shall have £50 ($243.33) and single men £10 ($48.67) capital. It is said that many of the emigrants to both Canada and Australia are well provided with capital.

Rhodesia is also becoming an attractive point for emigrants, especially those with some means. It is said that a party of 47 who went

there in March from England took with them an average of about $5,000 each.

The emigrants include not only unskilled, but all classes of skilled working people. It is reported that several hundred hosiery hands have been prevailed on to leave this district for Canada, notwithstanding the present activity of that industry here. This is attributed to promise of higher wages than those paid here, with free passage to Canada. Cotton goods operatives are also among the emigrants. A thousand coal miners are wanted for Nova Scotia, and it is understood that they have been secured in this and other mining districts of England.

The emigration propaganda is vigorously prosecuted by personal agents and through the press. A local newspaper, for instance, carries a display advertisement and at intervals a column or more of reading matter describing the opportunities in Canada.

GREATER NUMBER LEAVING AND FEWER RETURNING LAST YEAR.

The following statistics showing the number of passengers of British origin who left the United Kingdom in 1908 and 1909 for places out of Europe, together with the number of similar passengers who returned from the same places to the United Kingdom during the same years, are compiled from the British Board of Trade returns:

Places out of Europe.	Outward.		Returning.	
	1908.	1909.	1908.	1909.
Canada	81,321	85,943	39,866	35,506
Australia	21,894	27,158	10,418	9,781
New Zealand	11,675	10,500	2,728	2,637
United States	98,869	109,654	65,418	53,350
South Africa	19,568	22,026	24,848	19,539
All other	29,872	33,584	29,270	28,278
Total British origin	263,199	288,865	172,048	149,091
Total all nationalities	386,411	474,458	261,812	342,922

EMIGRATION OF UNEMPLOYED.

Dealing with emigration of unemployed under the unemployed workmen act, 1905, the report shows that the returns received relate to periods of six months ended respectively in March and September, 1909. During the year made up of those two periods 251 emigrants, with 228 dependents, were sent out by the Central (Unemployed) Body for London at a cost of $26,526, and 279 emigrants, with 474 dependents, were sent out by provincial distress committees at a cost of $35,174. The great majority of the emigrants went either to Canada (252 cases) or Australia (236 cases). In 37 cases their destination was New Zealand, in three cases the United States, and in two cases South Africa. These figures show an increase over those for the year ended September 30, 1908. During that year 108 emigrants, with 177 dependents, were sent out by the Central (Unemployed) Body for London at a cost of $11,645, and 167 emigrants, with 407 dependents, were sent out by provincial distress committees at a cost of $22,751.

GERMANY.

LARGEST MIGRATION STILL TO UNITED STATES.

The annual report of the Imperial German Commission for Emigration is epitomized by Consul-General Richard Guenther, of Frankfort:

In the year past 144,417 persons emigrated via Bremen and 114,535 via Hamburg, the destination point of the great bulk being the

United States. The commission believes that the emigration tide to the United States will take further rise during 1910. In the past year the emigration to Argentina and Brazil has also increased considerably. Several thousand of the emigrants were detained at the German ports on account of infectious diseases. The arrangements for inspections and sanitary provisions for the emigrants at Bremen and Hamburg were ample. The mission for taking care of the Jewish emigrants deserves great commendation. The Aid Society for German Jews last year expended 120,000 marks ($28,360) for emigrating Jews. Additional safeguards have been provided to emigrant vessels; most of these now have apparatus for submarine sounding signals and for wireless telegraphic communication.

CANADA.

STATISTICS OF NEWCOMERS ENTERING THE DOMINION.

Canadian immigration statistics for the fiscal year ended March 31 are summarized by Consul Paul Lang:

Of the 208,794 people who came to Canada in the twelve months, 59,790 were British, 45,206 Continental, and 103,798 from the United States. In March alone the British totaled 9,919, Continental 5,836, and from the United States 17,210.

IMMIGRATION FROM THE UNITED STATES INTO MANITOBA.

Vice-Consul-General James J. McBride, of Winnipeg, indicates a heavy increase in immigration into Manitoba during March.

The number of persons coming into Manitoba during March, 1910, was 123.2 per cent greater than during the corresponding month of 1909, and while the proportionate increase of carloads of effects and the value of the goods were somewhat less, they are still heavy. The increase in carloads of effects was 87.3, and the value shows an increase of 76.4 per cent. In the table given below another notable feature is the increase in the number of children in the families which have arrived to take up land in Manitoba. In 1909 there were 448 children, and this March there were 1,077. The following table is from the various outports of the province:

Ports.	Persons.	Children.	Live stock.	Value of effects.
Deloraine	15	9	9	$2,225
Gretna	825	401	963	238,200
Emerson	1,287	639	2,107	313,855
Killarney	13	7	33	5,285
Bannerman	32	17	28	7,315
Sprague	4	2	.....	250
Morden	4	2	.....	250
Total March, 1910	2,180	1,077	3,160	567,180
Total March, 1909	976	448	1,838	321,600
Excess for 1910	1,204	629	1,322	245,580

SETTLERS LOCATING IN NORTHWEST AND ESTABLISHING FACTORIES.

From figures furnished by the Windsor immigration office, Consul Harry A. Conant finds that 248 American citizens immigrated into Canada through the port of Windsor in February, bringing with them $40,000 in goods and money, while in March they numbered 559, with

$257,328 in cash and goods. Most of these are to settle in the Canadian Northwest. The consul also says that investment in manufacturing enterprises in Windsor and the immediate vicinity by American capitalists continues, the latest being by a company from Johnstown, Ohio, which has arranged to rent or build a factory for making sheet-brass fittings and automobile accessories on a large scale. The rising price of real estate at Windsor has furnished an incentive for further American investment.

LABOR IN CUBA.

PROVISIONS FOR SICKNESS, ACCIDENTS, AND OLD AGE.

The following synopsis of a presidential message to the Cuban Congress, recommending the passage of a law making provision for laborers in cases of sickness, accidents, and old age, is furnished by the Second Secretary of Legation Norval Richardson, at Habana:

It is an urgent necessity to provide for the laboring classes who suffer from accidents, etc., and the example has been set by all progressive cities of the United States and Europe. The time given to the discussion of this subject by the Fourth Scientific Congress, recently held in Chile, is referred to by the President, where the general consensus of opinion was to stimulate a movement throughout all the cities of the American nations to pass laws providing for the protection of laborers who had suffered from accidents or were ill or too old to work; also for the caring of the families of laborers while the latter are ill. Such measures have been adopted in the principal towns of Germany, France, and Switzerland, and have recently been taken up in Spain, and are of particular importance to Cuba at present on account of the increased immigration of laborers.

Four elements should contribute to the accomplishment of this purpose, namely, the laborers themselves contributing a nominal sum from their earnings toward a savings fund, municipalities wherein are located industries and manufactories, the employers, and the State. The workmen should contribute 20 or 30 cents monthly, as is done in Germany, Hungary, Switzerland, and other countries, which would amount to more than $300,000 per year, making a sum for the exclusive object of taking care of workmen in their old age; the municipalities should give a contribution taken from their budgets, say one or two per cent; all employers of laborers should contribute according to the extent of their business; the State, in the end, should complete the reserve fund to the amount demanded by the necessities of the working population.

INDUSTRIAL PROGRESS.

PAPER INDUSTRY OF GERMANY.

EFFORTS TO SECURE NEW FIBERS IN THE AFRICAN COLONIES.

Consul Thomas H. Norton, of Chemnitz, reports as follows concerning the recent efforts of the German Government and the German paper makers to secure new fibers for the manufacture of paper:

Within the past two years special interest has been taken in Germany in studying the extent to which the various indigenous fibers of the German-African possessions can be utilized in paper making. The results of careful investigation show that the regions in question produce naturally a vast amount of fibers admirably adapted to serve as paper stock. In a number of German mills their exact industrial value is being determined, and plans are being matured for systematic collection and shipment of the crude material. The facts thus far secured by combined study of German botanists and technical experts may be briefly summarized as follows:

PAPER-MAKING FIBERS.

Sisal hemp is one of the cheapest fibers available. It furnishes an excellent material, as the shortness of the cells permits easy disintegration, and facilitates the production of pulp. The chief difficulty is the lowness of pulp yield. Experiments are being made to perfect the process of treating crude stock to increase the yield. The great advantage which the sisal agave possesses over flax and other tropical hemps is the ease with which it can be cultivated in soils ordinarily considered barren.

Wild grasses.—It has been found that the wild grass occurring on sandy stretches in Germany is capable of furnishing an excellent grade of paper. The same valuable qualities characterize the enormous quantities of grass growing on South African hills and plains which now dry up and are totally wasted. The chief factor of success in this field is the cutting and gathering at the proper time. With esparto, now employed so extensively by the paper maker, delayed cutting means brittleness in the fiber and a distinct loss of value.

In general these tropical plants can be most advantageously treated by careful retting, rather than by chemicals, as in ordinary European mills.

Rice straw, for example, furnishes an admirable stock when properly retted. Nettles are completely changed, by careful retting for five days, to a white, fibrous mass. Good results have likewise been secured with bamboo, which is simply a giant grass. The canes, freed from leaves, are covered with lime and water, and left in vats or cellars for three or four months, the resultant product yielding an excellent pulp.

The prairie grass, Andropogon rufus, of Central and East Africa, furnishes a good pulp, much like straw. It requires prolonged boil-

ing, as for manila hemp, and a preliminary retting is found desirable. In Kamerun colony there are vast stretches covered with elephant grass. This is easily disintegrated by boiling, but the yield is low, rarely over 25 per cent. A previous retting effects a great economy in chemicals. For very strong paper the pulp from this grass needs the addition of a certain proportion of longer and firmer fibers. Experiments made with the allied plant, Taaca primatifida, show that it yields obstinately to-digestion. The fiber is brittle and is practically useless for paper making.

Papyrus grows abundantly along the lakes and water courses of southern and tropical Africa. Lake Nyassa, in particular, can furnish an enormous supply. The pedicles and the triangular stems afford excellent paper stock. The former are more resistant to digestion and to bleaching, and the yield of pulp is 38 per cent. The stems are easily digested and bleached and yield 43 per cent of pulp. The fibers of both parts of the plant are short and are most advantageously employed in combination with other stock. The unbleached product of the pedicles is well adapted for making pasteboard.

Sedge reeds.—European paper makers now find a valuable material in the sedge reeds, growing in such abundance about the delta of the Danube. On account of the high percentage of silica present prolonged digestion with caustic soda is necessary. It yields a pulp with a fiber somewhat shorter and thicker than rye straw. It is advantageously mixed with wood pulp.

Palm leaves.—Experiments with palm leaves (Pandanus candelabrum) show that they contain a useful fiber for the pulp maker. The yield of pulp is, however, but 26 per cent, and prolonged digestion is necessary.

Spanish broom (Spartium junceum) is also an available source of cellulose of good quality, well adapted likewise for making of artificial silk. The yield from the stems is 9.7 per cent, and digestion with caustic soda is required. The shrub occurs abundantly about the Mediterranean.

Banana fiber.—One of the most important sources of paper stock now under investigation in Germany is the banana tree. The stems which carry the fruit yield an exceptionally good quality of fiber. After digestion with caustic soda under pressure 67 per cent of bleached pulp is secured. The paper made from this material shows remarkable resistance to both water and fats, and resembles parchment in other properties.

Cotton bolls.—Interest here has also been excited over the possibilities of the capsules or bolls of the cotton plant as a source of paper stock. A good grade of paper is made from this substance, and the supply is of course enormous. Every 100 pounds of cotton correspond to about 40 pounds of cellulose in the capsules.

WOOD PULP IMPORTS—WORLD'S OUTPUT OF PAPER.

As is evident from the foregoing, German paper makers are actively investigating all possibilities for increasing the variety of raw materials available for their needs. At the same time, they can count upon a large existent supply of tropical fibers in the African colonies, susceptible of easy utilization, as the cost of rags, wood pulp, etc., in the home market tends to rise. A timely census of such resources is all the more in order, as German forests can no longer meet

the domestic demand for wood pulp. At present the German paper trade depends largely upon Austria-Hungary and Russia for its needs, but the forests of both lands will, at no distant date, be inadequate for the purpose.

Germany imported in 1909, 1,065,000 metric tons of wood pulp, of which 240,000 tons came from Austria-Hungary, and 806,000 from Russia, including Finland. Germany exports annually 5,000 metric tons of rags more than she imports. Her exports of rags to the United States amount to 20,000 tons annually.

In the world's annual production of paper (now over 5,000,000 metric tons), Germany's yearly output of 778,000 tons stands second only to that of the United States, 1,900,000 tons.

With the rapid growth in Germany of the publisher's trade, it is evident that the problem of where to secure the requisite paper stock is bound to gain an increased importance each year.

USES OF OLD ROPE.

ITS CONVERSION INTO PAPER—EFFECT OF TAR COVERING.

Consul-General Robert P. Skinner, of Hamburg, discusses in a practical way the various uses to which old rope is put at the present time:

My American inquirers apparently are misinformed in understanding that German paper manufacturers have discovered an economical method of removing heavy applications of tar and graphite from old rope. Furthermore, its market price is such that German manufacturers are not interested in making experiments along this line. Heavily tarred old rope is worth more to-day for making oakum than is lightly tarred material, and it does not seem probable that these conditions will undergo any substantial change.

The business of collecting and classifying old rope is an important one in every seaport. Old hemp ropes are nearly all tarred, but there is a small portion of such cordage which has been used for hoisting purposes, or for tying logs into rafts, and this portion is not exported, being converted in Europe into cigarette paper.

More frequently hemp ropes are lightly tarred, the original heavy coating having been washed off by water or melted off by the sun, and can be used for making a cheap grade of oakum, but are used principally in paper making. In Europe the lighter tarred ropes are utilized to a small extent for cigarette paper, but principally for heavy manila, called "papier goudronné." For this the tar remaining in the rope is regarded as desirable. In America few millers use this raw material, and little of it is exported to the United States.

OAKUM PRICES—HEMP WASTE—OLD MANILA.

The best oakum rope is called "wergtau" in German, "cordage pour étoupe" in French, and is worth about 3¼ cents per pound in America. The lighter tarred hemp rope is called in German "getweertes hanftau," and in French "cordage demi goudronné," and this is worth in the United States about 2¼ cents per pound, which explains clearly why it is not worth while to remove the heavy coat of tar for converting the rope into paper.

The scraps and waste from these tarred ropes, and also the old oakum removed from the seams of ships are used for making boards

and leather boards. This waste was formerly exported to the United States, but latterly American paper makers have found other materials seemingly more suitable for their purposes. The hemp waste is called in English "tarred hemp shakings," in German "lumptau," and in French "cordiles de chanvre goudronné," and it is worth in the United States 1⅜ to 1½ cents per pound.

Old manila rope has quite another set of applications. This also comes either white, untarred, or tarred. Of the white, large quantities are collected, the most of which goes to the United States. The shipments to the United States average 2,000 to 3,000 tons per month, American manufacturers using it for producing rope and insulating papers. It is worth 2¼ to 2⅜ cents per pound. The American price is held down, so it is said, by a buying combination of consumers. Some years ago the manufacturers had driven the price of this article up to 4½ and 5 cents per pound, whereas, intrinsically, it should not be worth more than 3 cents.

MANILA ROPE PRICES—CHANGING CUSTOMS.

Manila rope, when tarred heavily, is not exported, and is worth ¾ of a cent to 1 cent, and when lightly tarred 1¾ to 2 cents per pound; its exportation to the United States is trifling. European manufacturers absorb most of it for manila and bag papers. Dutch, French, and English ports are the principal sources of supply of tarred manila rope, whereas Hamburg supplies scarcely any of this grade. Some manila rope is not tarred, but tanned, when it is of less value than if tarred.

I am unable to learn that any graphite is used in this country for impregnating rope. I am also informed that American manufacturers, who, ten or twenty years ago, used rope or jute stocks, are now working principally with sulphite pulps, soda pulp, or so-called "kraft" pulps, for the same purposes. By using the newer raw materials, which will produce a fair paper, they get a larger output from their mills, although the quality is not so strong or durable. Rope stock must be cooked much longer than modern pulps. This changed custom has decreased the value of old rope and old bagging considerably, though the demand for paper has increased within twenty years so enormously that ropes and bagging, formerly the sole raw materials, could not now be furnished in sufficient quantities to satisfy the requirements of manufacturers.

CHEMNITZ.

ITS USE FOR PAPER MANUFACTURE VERY LIMITED IN GERMANY.

In reply to an inquiry, Consul Thomas H. Norton, of Chemnitz, furnishes the formulæ for the preparation of old manila rope for paper stock in Germany:

The use of old manila rope for paper stock is much more limited in Germany than in the United States. In Saxony such rope, especially when impregnated with tar or graphite, is never employed for the production of white paper. Manufacturers state that the cost of removing the foreign matter is such that it is more economical to use clean white rags. The cleansing process in the case of tarry rope can be carried sufficiently far so that the stock is available for the manufacture of a firm, fine packing paper with a yellowish to silver-gray tint.

The processes of preparation of rope for paper stock are as follows, as kindly given by three paper makers:

(1) Digests tarry ropes with from 10 to 15 per cent of their weight of caustic soda for twenty-four hours under a pressure of from to 2 to 2½ atmospheres; after treating once or twice with the customary bleaching powder solution the stock shows but little trace of color. (2) Uses a mixture of 20 pounds quick lime and 3 pounds of caustic soda, wherein are digested 1,000 pounds of old rope for ten hours under a pressure of 5 atmospheres, which means a temperature of 158° C.; the material loses 23 per cent of its weight, and is fairly well freed from foreign matter. (3) Digests the stock with from 1 to 5 per cent of its weight of caustic soda (70–72°); finds the action of the amount given equal to that of double the weight of calcined soda, and six times the weight of caustic lime; he employs caustic soda only in the case of tarry ropes and very greasy rags; the caustic alkali attacks the plant cells, loosens their coherence and liberates the foreign matters from their natural or artificial combinations, and the action is intensified by the increase of temperature resultant from carrying on the digestion at a high pressure.

The presence of graphite in the tar or grease with which ropes are impregnated renders the problem of purification exceedingly difficult, and practically impossible if the stock is to be used for a white paper.

An expert who has had much experience in trying to free cordage, and also steam cylinders, from graphite, says that it is the most stubborn material to remove which he has encountered. Washing, scalding, and the use of ordinary chemical solvents are without any practical result.

In the German paper trade the stock is roughly divided into six classes, viz, (1) very fine; (2) fine; (3) half fine; (4) gray; (5) fine colored; (6) coarse colored.

Class 4 includes the coarsest linen, tow, packing cloth, sacking, ship's cordage, and all forms of rope. The general method of treating such stock is to boil four times in succession with fresh lime, using 1 pound of lime to 4 pounds of stock. After twelve hours of boiling the hardness is gone as completely as if the materials had lain four weeks in a fermentation cellar, and the resultant paper is whiter and firmer than if use had been made of a retting process. If bleached subsequently with chlorin gas such stock can be used ordinarily for white printing paper and even for letter paper.

An expert in paper making states that manila hemp is the most difficult material to treat of all those employed as raw material in this industry. A most thorough washing prior to maceration is an absolute necessity. This is due to the remarkable absorptive power of the fiber, which surrenders or exchanges absorbed water very slowly, through diffusion. It shows a marked tendency to swell up into a spongy mass, which is little affected by the ordinary grinding apparatus and causes irregularity in the work of the breaker as well as in all subsequent processes. To overcome this difficulty he allows a current of steam to enter the wash water. The latter is also introduced forcibly through a number of jets, located back of the saddle of the breaker. As a result the water is well united with the fiber and the latter is kept in constant movement during the grinding operation. This treatment is found to be of special value when old manila rope containing much foreign matter is used as raw material.

COST OF PULP MANUFACTURE.

In a neighboring factory the following estimate is given of the cost of producing paper from 220 pounds of old manila rope, reduced from marks to American currency: Rope, $2.98; sorting, cutting, and

general expenses, $1.28; boiling, 66 cents; breaking and washing, $1.81; bleaching, 50 cents; total, $7.23. As 100 kilos (220 pounds) of rope will yield 55 kilos (121 pounds) of paper, the cost of the pulp requisite for producing 100 kilos of paper would be 55.27 marks ($13.15); this would amount to $5.97 for the pulp required for 100 pounds of paper.

In another mill an expert made the following calculation of the cost of unbleached pulp made from 100 kilos (220 pounds) of tarry rope: Cost of stock, sorted, $3.33; cutting and cleaning, 17 cents (loss 8 per cent); boiling, 40 cents (loss 12 per cent); washing and grinding, 93 cents (loss 10 per cent); total, $4.83. This corresponds to $3.19 per 100 pounds of pulp. The cost of 100 pounds of paper, on this basis, would be about $4. This expert says that American paper makers are in advance of their German colleagues in the matter of advantageously utilizing tarry rope.

PORPOISE OIL.

TREBIZOND A LARGE MART FOR THE SUPPLY OF THE PRODUCT.

Consul Milo A. Jewett furnishes the following information concerning the porpoise fisheries in the Black Sea, and the annual supply of porpoise oil in Trebizond, Turkey:

With the rapid growth of the tanning industries in the United States it is said that the supply of oil for dressing leather is becoming relatively insufficient to meet the demand, therefore a brief report on the porpoise oil industry of Trebizond may be of interest, as this place is able to supply 1,000 barrels of oil per annum, and probably could supply more if the demand were greater. There are three varieties of porpoise in this part of the Black Sea. One, called in Turkish montour, is small, black all over, and has a very short head or snout, and yields about 2 gallons of oil; the second, called tertak, is larger, has a black back and white belly and a long snout, and yields about 6 gallons of oil; the third, called aphalina, resembles the second, but is considerably larger and yields from 8 to 30 gallons of oil.

The porpoises are either shot from rowboats in the open sea when they come to the surface or they are caught in long dragnets when a school of them approach the shore to feed on the schools of hamses, a sort of anchovy that abounds here in the winter season. The school is surrounded by the net, which is about 15 feet wide, with floats on one edge and weights on the other, and the net is then hauled into shallow water where the porpoises are killed.

The oil is tried out and the refuse is used as a fertilizer. The annual production of oil here is about 1,000 barrels of 440 pounds each. About a third of it is used by the tanneries here and some is used as a medicine instead of cod-liver oil. Prices are now about 20 per cent higher than in previous years. The present (February 22) local price is 3.32 to 3.5 cents per pound, which makes it about $15 a barrel. [A list of the chief exporters of porpoise oil from Trebizond, with whom correspondence may be carried on in French, furnished by Consul Jewett, may be had from the Bureau of Manufactures.]

OIL ENGINES FOR MESOPOTAMIA.

WHAT IRRIGATION MEANS—BAGDAD WANTS POWER PUMPS, ETC.

In stating that $2,500,000 is now to be spent on irrigation works west of Bagdad, as a part of the stupendous $80,000,000 scheme planned for Mesopotamia, Consul Frederick Simpich tells of the opening it presents for pumps and engines:

Sir William Wilcocks, the engineer who built Egypt's irrigation works, has been engaged by the Turks to reclaim the vast area of arid land in the valleys of the Euphrates and Tigris rivers. Though the reservoirs and canal system planned will water much land by gravity, a large and ever increasing number of pumping engines will also be required. Water is now taken from the rivers by horsepower, pulling a skin of water over a wooden windlass. Some few pumps driven by oil engines are also in use. These were first introduced from France in 1905. A native who had spent some time in Paris brought these French "duplex" oil engines back with him, and they still enjoy the best reputation of all pumps in use here. When these French engines came into successful use, British makers also tried to sell in this market. Through cheaper quotations and more favorable terms of payment than offered by the French manufacturers native agents were induced to handle the English engines. These latter are now popular, and are imported by several native firms, and by one British firm doing business in Bagdad.

The native agent of the Paris firm has just come back from Paris, and it is said he has arranged to sell French engines on the installment plan. This plan will no doubt lead to the sale of hundreds of pumping outfits. The English engines in use are the Hornsby, Britannia, Blackstone, and Allen. All power engines for pumps, mills and boats for Bagdad should burn kerosene. Gasoline and similar explosive oils are refused as cargo by shipping companies hauling freight to Bagdad.

Oil engines for Bagdad must be of the simplest construction, such as may be easily cared for and kept in repair by native engineers. Engines for power pumps need not be very large, say 6, 8, and 10 horsepower. Water, when the river is lowest, need not be lifted much more than 25 or 30 feet. A few extra large engines might be sold to persons wishing to irrigate more than the usual field of a few acres.

THE POWER NEEDS.

Besides the demand for power pumps, oil engines could be sold to some extent for use in flour mills, machine shops, wool presses, and in similar smaller industries. Coal is scarce and very expensive in Bagdad, its almost prohibitive price leaving the local field open to the use of oil or gas burning engines.

Several oil engines of English make are now supplying power for flour mills, shops, etc. The only reason why more of such engines are not in use is that this market has been somewhat neglected. Bagdad is still one of the places in the East where European influence is only slightly felt. Its remoteness and inaccessibility, the terrible heat of summer, and fear of sickness have kept the usual

traveling salesmen out. No specialist in pumping plants, oil engines, etc., except the native who had been to Paris and who brought out the French engines, has ever come here to sell goods. The marked success of this native, who is selling engines not only about Bagdad, but as far away as Bassorah and Mohammereh, shows what other intelligent effort could do with oil engines of all sorts.

Hence it is important that American manufacturers investigate the Mesopotamian market immediately. The use of oil engines is growing fast, and the longer our makers delay the harder it will be for them to combat European competitors. Great forces are at work, destined to transform immense areas of this region into productive farms. What was accomplished in Egypt through irrigation seems about to be repeated here. Already 3,000 laborers are employed on reclamation work in the valley of the Euphrates, and they are but forerunners of larger forces soon to follow. Ages ago Mesopotamia grew wheat for the whole East, and if the plans of Sir William Wilcocks work out successfully the vast area of arid land between the two great rivers of Turkish-Arabia will again become the greatest grain growing country in this part of the world. The advent of the Bagdad railroad, which must come in a few years, will bring Europe close to Bagdad. Then will follow many European salesmen, the quick transport of goods, and Bagdad will awake to new and closer trade relations with the Western world. American manufacturers who establish themselves against this dawn of the new commercial era in Mesopotamia will reap a rich harvest.

WHAT MAY BE SOLD.

So it is suggested that makers of oil engines, pumping outfits, power boats, and possibly low-priced automobiles, auto buses and runabouts, should send out a capable agent to Bagdad. The expense of this costly trip to Bagdad should be borne by associated manufacturers with a joint agent bringing a line of samples. This agent should speak French, expect to stay here a year or more if necessary, and should himself be a mechanic. Samples must be brought along; catalogues and trade literature, so far as concerns articles as expensive as engines, pumps, boats, etc., can sell no goods in Bagdad. All that has been said of Bagdad and vicinity applies with equal force to Bassorah and Mohammereh; 6, 8, and 10 horsepower engines for pumps are the type most in use. A 6-horsepower English engine and pump, with 24 feet of cast-iron pipe, belting, flywheel and all (except storage tank) sells from stock in Bagdad for $400 to $485. American firms making prices should quote on the complete plant, oil engine with all accessories, pump, attachments, etc., c. i. f. Bagdad. By adding about 10 per cent to cost of complete pumping outfit in America the c. i. f. price in Bagdad can be approximated.

More machinery would be used here if skilled mechanical labor for repairing it could be secured. Big profits could be earned by an average equipped machine shop, running drills, lathe, forge, etc. Should a joint agent for manufacturers be sent to Bagdad as suggested, he should arrange to establish such a shop here, and after proper instruction leave it with responsible natives. Besides constant repairing work, persons running this shop could also be made the agents for manufacturers of engines and belt-driven pumps, ice machines of 2 and 3 tons per twenty-four hours, small flour mills,

rice-hulling mills, small looms, embroidering machines, oil-pressing machines, agricultural implements, aerated water machines, boats, pipe and accessories, horseshoe-making machines, and iron beds.

To facilitate the introduction of American machinery here it is suggested that American exporters already established in India be encouraged to investigate this field.

PUBLIC WORKS IN HARBIN.

HOW TO SECURE CONTRACTS FOR THEIR BUILDING AND CONCESSIONS.

In answer to an inquiry, Consul Roger S. Greene submits the following report covering the Manchurian city of Harbin and the best manner of securing contracts for the construction of public works therein:

The city of Harbin is really made up of the so-called Pristan, which is the business section, and the New Town, on higher ground farther back from the river, in which are located the railway offices, the bank, custom-house, several of the consulates, and residences of officials and railway employees. These two sections are practically contiguous, though the railway serves to mark the boundary between them.

Old Harbin is only a suburb, and, furthermore, is about 2½ miles from the New Town, with practically an unsettled plain between them. Together with the neighboring settlement of Alexeiefka, its population is estimated at about 4,000.

About half a mile down the river from the Pristan is the new, rapidly growing Chinese city of Fukiatien. From an administrative point of view it is a separate unit, and the Chinese control there is unquestioned, but practically it is the Chinese quarter of Harbin, and has grown up simply on account of the building of Harbin by the Russians. The winter population of Harbin is estimated at 40,000, but in summer the number is more than doubled. There is a continual movement of carriages and pedestrians between Fukiatien and Harbin, and of late a primitive omnibus has been running between the two cities.

The main difficulty about securing a contract for the construction of any public works now is that the Chinese Eastern Railway still claims the right to control the city government, while the other powers refuse to recognize the organization it has established. Nothing definite can be accomplished, therefore, till this question is settled. It would be well to enter into preliminary negotiations with the Chinese Government through the tao-tai here. It is possible that some kind of an option could be secured in this way. It would at least do no harm to get his support.

I believe that the waterworks, electric light, and street railway propositions can be made very profitable here, as the commercial future of the city seems assured. Various proposals have already been made for the construction of public works here, and a number of foreign firms are interested, but so far as I know none have accomplished anything as yet. [The following accompaniments of Consul Greene's report are on file in the Bureau of Manufactures: A plan of Harbin, a list of the electric plants of the city, miscellaneous data, transportation facilities, system of lighting, etc.]

PEARL FISHERIES OF MEXICO.

GOVERNMENT CONCESSIONS IN GULF OF CALIFORNIA.

Consul Lucien N. Sullivan, of La Paz, Lower California, sends the following interesting account of the extensive pearl-fishing industry of the adjacent gulf:

Recorded accounts of the existence of pearl-oyster beds along the west coast of Mexico date from 1536, when they were found by Cortez while searching for the treasures of Montezuma. Pearl fishing there has continued ever since with but little interruption.

Extensive beds are located in various parts of the Gulf of California, and until 1884 there were no restrictions regulating the industry, so that eventually the beds gave indications of becoming exhausted. In February of that year a concession was granted by the Mexican Government to a syndicate of English capitalists which gave them exclusive privileges for fishing in all waters of the Gulf and the west coast, with the exception of the shoals around the islands of Ceralbo, Tiburon, and Espiritu Santo, for which smaller concessions are held by Mexican operators.

La Paz is the center of the industry, though the main office of the Mangara Exploration Company, Limited, the principal concessionaire, is in London. All the pearls and mother-of-pearl shells gathered by this company are marketed in England. The concession of the Mangara Company was renewed a few years ago and now runs until 1932. The company has three fishing fleets in service, giving employment to 300 men.

It requires six or eight years for the shells in these waters to reach full growth, and the beds are given a two years' rest, each in turn. The present output is about 300 tons of mother-of-pearl shells and $100,000 worth of fine pearls annually. The approximate price for the shells in the European market is at present $150 gold per ton. The large production of mussel shells from various rivers in the United States, though principally the Mississippi, caused a marked decline a few years ago in the price of shells.

According to the reports for 1904, there were in that year sent from this district several thousand tons of shells, which brought $250 gold per ton. The pearls from these waters compare very favorably with those from Ceylon and the Persian Gulf, but the output is very much less. A fair proportion average between two and three carats in weight, which is a very good marketable size. Eight and ten carats are not infrequent, and recently one of 22 carats was brought in by an independent diver, valued at over $4,000 gold. It was rather pear-shaped, though quite regular in form and of good orient. A pearl now among the crown jewels of Spain was found in the gulf and sold for $17,000.

While the East India pearls run very uniformly white and yellow, a good many of the La Paz pearls are fancy color, green, bronze, blue, or pink; and more black ones are found here than in any other part of the world.

ARTIFICIAL PROPAGATION OF PEARL OYSTERS.

In July, 1903, a concession was granted by the Mexican Government to a company called "Compañia Criadora de Concha y Perla

de la Baja California," which, as the name indicates, had for its purpose the artificial propagation of the pearl oyster. The method for this artificial cultivation was patented in April, 1902. San Gabriel cove, on the island of Espiritu Santo, was selected as the location for carrying out the plan. The island, 5 miles wide and 14 miles long, lies 15 miles to the north of La Paz. There are four principal steps in the system of cultivation:

(1) Collection and fertilization of the eggs in hatchery compartments where they pass into the state of larva and from that to the tiny young shell, which already begins to cling to the nests which have been placed in the compartments; (2) transferring the young oyster from the hatcheries to trays of wire cloth, which are then arranged in wooden boxes and placed in canals which have been so constructetd that water circulates continuously and carries the elements of nutrition necessary for the growth of the oyster; (3) transferring the young oyster at a certain period of development from the boxes to the bottom of the living canals; and, (4) transferring the shells from the canals to either natural or artificial beds in open water, after they have attained sufficient development to give them immunity in some degree from the dangers of attack by their numerous enemies.

Each collecting box contains many thousand young oysters, so that with a few hundred boxes the number reaches rather considerable proportions. Although the efforts of the company to cultivate the pearl oyster have not as yet been very well rewarded, from a financial standpoint, it does appear that the results thus far obtained justify the attempts which have been made, and that the experiment besides being at least interesting gives some basis for the hope that further development may become profitable.

AMERICAN CAPITAL IN VANCOUVER.

ADDITIONAL INVESTMENTS AND DEVELOPMENT PLANS BY SEATTLE MEN.

The following report from Consul Abraham E. Smith, of Victoria, shows that American capitalists are continuing to make large investments on Vancouver and adjacent islands in British Columbia:

In February the president of the Irondale Smelting Company, of the State of Washington, completed the purchase of 10 miles of coal lands on Graham Island, making a payment of $60,000; also a number of magnesite claims at Atlin, British Columbia, paying $75,000. He also stated that his company's experts had decided that it might be necessary to avail themselves of the extensive iron deposits on Vancouver Island, which they have under option. Should this be done, the company would establish a large steel plant to cost $500,000 to $1,000,000, and give employment to over 1,000 men.

In March two Seattle business men [names on file at Bureau of Manufactures] closed the purchase for $175,000 of 47 square miles of timber land on Vancouver Island, fronting on Winter Harbor, Quatsino Sound. They already owned 28 square miles of timber land in the Alberni Canal district. In the same zone they have an option on another 17 sections, the purchase of which will be soon completed. They also have extensive holdings in California and Oregon, and in the Squamish River district of British Columbia. It is expected that in the near future a railway will be run across the near hundred miles of timber, with an outlet at Winter Harbor to haul out to shipping point the immense quantity of lumber to be cut.

BASKET-WILLOW INDUSTRY.

CHARACTER OF TRADE IN BAVARIAN DISTRICT OF UPPER FRANCONIA.

Consul-General Frank Dillingham, of Coburg, makes the following report on conditions in the willow-ware trade of that part of Germany:

Upper Franconia, in this consular district, is considered the real center of the Bavarian willow industry. The necessary raw material for basket ware was, at the beginning of the industry, procured for nothing from those parts of the district where the willows grew best, no attention being paid to quality. In time, however, the home supply of willows became insufficient, though hundreds of thousands are still sent abroad every year. The question was often broached as to whether it was not possible to supply the inland demand for willows. The State, recognizing the importance of the Upper Franconian basket-ware industry, which was so rapidly springing up, made considerable allowances for methodical willow culture. The great success anticipated did not materialize, and past experiences in Upper Franconia show that only stretches of large extent, which produce sufficient to ship in carload lots, can be profitably cultivated.

White or peeled willows of German production cost f. o. b. Hamburg, Rotterdam, or Antwerp about 16 to 60 marks ($3.80 to $14.28) per 100 kilos (220 lbs.), according to quality. Green or unpeeled willows cost 6 to 8 marks ($1.42 to $1.90) per 100 kilos. Willows in Germany are, with very few exceptions, sold by producers unsorted, just as they are cut from the plants. These are bought by wholesale firms in Lichtenfels direct from producers and sorted into the various qualities desired by different countries. A few thousand dollars worth of willows are exported from Upper Franconia to America annually. As far as I have been able to ascertain, large quantities are exported to the United States from Department of Meurthe, France.

Although it is thought by many people that the cultivation of willow shrubs is very renumerative, one of the largest firms in Lichtenfels assures me that it is not nearly as profitable as some people claim. Many producers who had large areas under cultivation have been compelled to discontinue the production because labor is too high and the revenue an uncertain one. The transportation of unpeeled willows in small quantities does not pay; only good, white, glossy ware of the best quality, dried in the sun, can be utilized as an article of trade to ship long distances in order to realize good prices. The salix amygdalina has proved the most satisfactory variety in Upper Franconia because it is less affected by changes in climate and damage by insects than other willows. It is shining white when peeled, and is hard and pliable. In spite of the general depression which followed the financial crisis of 1907 and 1908 sales of basket ware in Upper Franconia can be reckoned at $2,380,000 to $3,570,000 yearly, and with the expected increase in sales of the home basket-ware industry it is thought that the systematic cultivation of a first quality of willows will shortly prove more profitable, because with increased business in the basket-ware industry the demand for good raw material must improve.

BRITISH COLUMBIA ACTIVITY.

INDUSTRIAL ENTERPRISES—LARGE SALES OF AMERICAN MANUFACTURES.

In reporting as follows on the industrial conditions of Vancouver and of the whole province, Consul-General George N. West says that 1910 promises to be the most prosperous year in its history for British Columbia:

The bank clearances at Vancouver during the three months ending March 31 amounted to $94,224,130, an increase of $40,248,919 over the same period in 1909, while the building permits for March amounted to $1,786,996, covering the erection of a large number of steel and reenforced concrete business blocks, apartment houses, and private dwellings.

I am informed by an American salesman that certain cheaper lines of builders' hardware and carpenters' tools are in great demand, and that he was receiving large orders for immediate delivery. The city of Vancouver will spend $2,000,000 during the year for paving, foot walks, sewerage, and water extensions.

The lumber industry is increasing, and many new mills of large capacity are being erected; several are putting in sash, door, and blind machinery. One of the largest companies proposes to adopt the aerial system of logging, which will enable it to handle triple the number of logs it handles by its present donkey-engine system, besides avoiding the rough usage of logs. It is said that orders for two aerial outfits for present use have been placed by the company.

On account of heavy snowstorms and slides on all railways, the shipments of lumber to the United States during the past winter were not as large as usual, but with the advent of good weather shipments in larger quantities will be made.

Mining in the province is receiving much attention, and large amounts of machinery are being received in the Atlin and Portland Canal sections. Representatives of American mining machinery and supplies, as well as of general machinery, report receiving large orders, the business being better even than in 1909.

DEVELOPMENT IN ARGENTINA.

PRESIDENTIAL PARTY HELPS INAUGURATE NEW ENTERPRISES.

Writing from Buenos Aires, American Minister C. H. Sherrill gave the itinerary of an interesting tour in March by Argentine officials through the southern part of the Republic. The President, the President-elect (Dr Saenz Peña), the ministers of finance, public works, and marine, with 70 other persons, at Neuquen, on March 17, laid the corner stone of the dam of the Rio Negro irrigation works. The Government anticipates results of great value to agricultural interests by the regulation of the vast water system of the Rio Negro which this dam will make possible, and the resultant prevention of the annual inundation of large stretches of territory followed by droughts during the dry season. At San Antonio the presidential party participated in the opening of the first section of the railway from that point to Nahuel Huapi. From this enterprise also the Government expects that there will be opened to the public a large

district of rich land some of which is to-day almost unknown. On the return voyage the railroad from Puerto Madryn to Gayman, as well as San Blas and the mouth of the Rio Negro, were inspected. Much public interest has centered in this trip of the President because of the extensive territory, believed to be valuable for agricultural, grazing, and mining purposes, which the government enterprises described as undertaken are confidently expected to reclaim.

VIOLIN MAKING IN GERMANY.

CURLED OR FLAMED MAPLE FROM EASTERN AUSTRIA USED.

The sources, cost, and demand for curled maple for use in German violin construction, are interestingly treated in the following communication by Consular Agent W. Bruce Wallace, of Markneukirchen:

The wood principally used in the manufacture of violins is the so-called "flamed" or curled maple. Bird's-eye maple is used only to a slight extent, being employed more in the manufacture of guitars than violins. This flamed maple is now obtained from the mountainous districts of eastern Austria. It is found growing in rugged places, the flame seemingly being all the better the more rugged the soil.

In order to make use of all of the wood that is suitable, and to saw the same so as to bring out the flame to the best advantage, the wood is brought to Markneukirchen where the great skill and experience required in its working are found. The trees are sawed into lengths of 1.20 to about 3 meters (meter=3.28 feet). These lengths must be in meters and divisible by 40, so as to allow the proper length for the violin. Extreme care must be taken with the wood, as every mark detracts from the value. Only those trees cut after the sap goes down in the fall and before it returns are suitable for violin wood, and the quicker the wood is transported after cutting the better. Only the flamed part of the tree is cut and sawed, as smooth maple is not worth the cost of transportation.

When the heart of the tree is sound it is merely sawed into lengths convenient for transportation. If the heart is unsound the tree is split and the rotten part is cut away, thus making a great saving in transportation charges. This work must be done under the supervision of one thoroughly understanding the nature of the wood, and great care must be taken.

The prices for the wood vary according to its character, and the flame, ranging from $250 to $750, freight to Markneukirchen prepaid, for 10 metric tons, or 11 tons 46 pounds avoirdupois.

The demand for this wood is considerable, one firm alone using about $15,000 worth annually. Besides Markneukirchen, violins are manufactured to a considerable extent in Schönbach, Austria; Mirecourt, France; and Mittenwald, Bavaria. Several firms that have been interviewed have expressed a desire to be put into communication with exporters in the United States who could deliver them American maple wood "flamed" or curled the same as that obtained in Austria. [Addresses of these foreign firms may be secured from the Bureau of Manufactures by exporters or dealers in such wood.]

THORIUM NITRATE IN GERMANY.

OPPOSITION TO THE TRUST CAUSES REDUCTION IN PRICE.

In answer to an inquiry, Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning the German thorium nitrate industry and the successful efforts in offsetting the trust and reducing the price of the product:

Thorium nitrate is necessary for the manufacture of incandescent gaslight mantles and is produced from monazite sand, found chiefly in Brazil and South Carolina. How this article, now so indispensable, has fallen from $476 per kilo (2.2 pounds) in 1894 to its present level of $3.80, and how the manufacturers of gaslight mantles have broken down the German thorium nitrate trust is an important part of the chemical industry. The whole thorium industry in Germany was absolutely controlled until lately by a syndicate composed of members of three firms. A leading German chemist, in a published report, gives the cost of production as follows:

> The cost of the chemicals necessary for the transformation of the monazite sand must be estimated at about $190.40 to $214.10 per ton of sand. The syndicate paid approximately $154.70 per ton of sand containing 5 per cent of thoria oxide. Taking into consideration that the maximum yield is 90 per cent, the cost of production of one kilo (2.2 pounds) of thorium nitrate is about $4.05. The cost of packing and agent's commission would bring the price up to $4.22.

CIGARETTES IN MEXICO.

HOME FACTORIES SUPPLY THE TRADE ON THE WEST COAST.

Deputy Consul Charles B. Parker, of Mazatlan, gives the following account of the cigarette trade on the West Coast of Mexico:

In Mazatlan are several cigarette and cigar factories, the four leading ones employing 60 to 250 persons of both sexes, mostly piece-workers, who earn $3 to $9 weekly. Modern machinery is driven by electricity. The cigarette machines have about 50,000 daily capacity in 10 hours and are of United States manufacture. The tobacco used comes from the neighboring Territory of Tepic. The cigarettes are mostly the cheaper grades, selling at 1 to 1½ cents United States currency per package of 11 to 15. These are all sold on the West Coast of Mexico and in Lower California.

Nearly all the better grade cigarettes sold in this vicinity are made at Mexico City and are of such high quality that foreign-made cigarettes are practically unknown on the West Coast. They sell at 3 to 20 cents in packages of 14 to 18. Even the 3-cent grade compares favorably with the 15, 20, and 25 cent grades of the United States. The average Mexican prefers a cigarette to a pipe or a cigar, though many cigars and some pipe tobacco are manufactured. Some of the cigars are made from Tepic tobacco, but generally the Veracruz tobacco, which closely resembles the Habana tobacco, is used.

UNDERGROUND STEAM HEATING.

A CENTRAL PLANT PROPOSED IN THE CITY OF WINNIPEG.

Consul-General John E. Jones submits the following report upon the prospective formation of a company in Winnipeg for constructing an underground steam-heating plant in that Canadian city:

The company's franchise, submitted for ratification to the present Manitoba legislature, provides for supplying steam or hot water for heating purposes and compressed air in vacuum for power purposes. The company, which has undertaken to finance the scheme if the franchise is ratified, agrees to spend $100,000 within a year from the time active work upon the plant is commenced.

The boiler plant will probably be located on the bank of the Red River, convenient to the business section of the city. It will be of 5,000 horsepower and will deliver steam underground just as gas is delivered, operating in the central part of the city.

The company notes that there are 59 such plants in the United States. It expects that its plant, fully equipped, will represent an expenditure of over $1,000,000. [The name of the promoter and manager may be obtained from the Bureau of Manufactures.]

One Thousand Mexican Towns Making Improvements.

An announcement by a journal in Mexico City says that preparations for the centennial celebration of the independence of Mexico are being vigorously pushed along the following practical lines:

One thousand municipalities in the Republic have already sent in their reports to the office of the secretary. The president of the national commission is Governor Guillermo de Landa y Escandon, the secretary Lic. José Casarin, and the committee as a whole is composed of the following prominent citizens: Don Fernando Pimentel y Fagoaga, Lic. Rafael Rebollar, Don Romualdo Pasquet, Dr. Porfirio Parra, Gen Eugenio Rascon, Lic. Agustin Lago, and Lieut. Col. Don Porfirio Diaz.

Together with this national body, subcommissions have been appointed in every municipality in Mexico to make preparations for the great festivities, and especially to inculcate an ambition for and a display of material improvement in every department of the various towns and cities.

MINING AND MINERALS.

DIAMOND TRADE REVIEW.

RENEWED MARKET ACTIVITY—EFFECT OF NEW GERMAN COLONY SUPPLY.

In his annual review of the diamond trade and industry, Consul-General Henry W. Diederich, of Antwerp, Belgium, says that during the year recently closed events moved very rapidly all the world over; there was progress and improvement in every direction. It was a veritable diamond-boom year. He writes:

A new diamond-producing country that had been discovered the year before seriously entered into competition with the older ones in supplying the market with raw material. Of late years the diamond output of South Africa—the most important producing center of the world—may be regarded as having practically come from three groups, the De Beers, the New Jagerfontein, and the Premier. There are others, but they are of little importance. Of the great trio, the De Beers is, of course, the most important. All these are strictly bound to deliver their output to the Diamond Syndicate at London, which dominates the sales of rough diamonds to the cutters in Antwerp, Amsterdam, and elsewhere, thus forcing up the prices of finished diamonds out of all proportion to their actual cost value.

Such was the condition when suddenly, in May, 1908, the discovery was announced of a new diamond field, also in South Africa, near Luederitz Bay, in the German colony of Southwest Africa. At first little attention was paid to these rumors, but soon that country was overrun by venturesome parties all scraping for diamonds, a large number of which were actually found. The German Government established law and order during the past year, and a temporary arrangement was made whereby a syndicate in Berlin, comprising a number of leading banks, is to control the entire output of this new field, and to turn over to the Government a large portion of the profits. Whether or not the London Diamond Syndicate offered to take over the German diamonds on the same terms and conditions as it did De Beers and others, the offer, if made, apparently met with a refusal, as the Germans prefer to not only monopolize the output of these new mines, but at the same time to also gradually build up an entire diamond industry of their own, from delivery of rough stones to supplying the finished product to the market.

Meanwhile another German combination has been formed, and is now negotiating with the Government for the purpose of working the mines on terms to suit the Government, guaranteeing to it not less than 80 per cent of the profits. Thus the German people, who had to sacrifice many lives in their South African province, now have a fair chance of having at least the money and time spent for the protection

and improvement of the colony—said to amount to about $50,000,000 or $60,000,000—refunded in good time, with handsome interest.

Since the present Berlin syndicate took charge of the mines, about a year ago, up to October, 1909, about 273,701 carats of diamonds were delivered to them, which were sold for $1,900,300, of which $873,800 were covered into the public treasury. In the meantime the prices have been advancing, and for the first nine monthly shipments they averaged per carat as follows—$5.34, $6.49, $6.54, $6.40, $6.79, $6.69, $6.77, $7.19, and $8.02. At present the average production in each month amounts to 45,000 carats.

SIZE, QUALITY, AND CUTTING.

The German South African diamonds are not large, as a rule. Some few were found of 17½, 10¾, 8, and 4½ carats; stones of 1 carat are not rare; but by far the most average only one-third. Though some of these stones—but not many—are yellow or red or green or blue, most of them could vie with the clearest water for transparency and color, and possess a wonderful luster, oftentimes glistening like dewdrops when found in the sand. Being not so hard as the British South African diamonds, there is less waste in cutting, and therefore the German stones are very popular with the diamond cutters. The cost of production of rough stones at the German African mines, too, is very low, averaging from 50 cents to $2 per carat, while the average in the British South African mines ranges from $4 to $5 per carat.

As Germany is not yet able to prepare in home establishments all the rough diamonds so suddenly harvested from the colony for the market, a large part of the South African output was turned into the hands of a syndicate of diamond merchants at Antwerp, which has become one of the great centers of the European diamond industry, to be cut and polished and made ready for the trade. It is said that this syndicate took over 90,000 carats of such rough stones at $6,642. This large addition of raw material gave a great impetus to the work done at the numerous diamond factories in this city during the past year, creating an increased demand for both labor and wages. Even the less skillful workmen were reported to be receiving much larger wages than the usual average, which is $15, to $16.50 per week.

In a published report in 1908 I referred to the process by which a diamond is transformed from its rough state into the polished article, ready for mounting. This work of diamond cutting is the most important part of the industry.

WAGES OF DIAMOND CUTTERS.

The craft of diamond cutters have had their vicissitudes, and prior to 1870 wages were so small that cutters who had families could scarcely make both ends meet. The amount of rough stones imported from India and Brazil, then the only sources of supply, was so small that the men were only busy during seven or eight months in the year. It was not until the discovery of the mines in South Africa that the situation changed. In a few months' time wages were quadrupled, and the production went on increasing. These were the halcyon days for the diamond cutters, many of whom earned $240 to $300 a week. The news of big wages spread rapidly abroad,

and recruits to the diamond industry at Antwerp were legion, bringing about, naturally, a decrease in wages by the supply becoming greater than the demand. However, the diamond cutter to-day receives a remuneration which, though much reduced, is still much larger than that earned by workmen in any other industry, and this enables him to live in comparatively easy circumstances.

It is practically impossible to determine the average of the daily or weekly wages paid the Antwerp cutters, as they vary according to the ability and industry of the workman and to many other trade conditions. However, the manufacturers give the work out to a cutter, who assumes all responsibility, whether he does the work himself or by and with the aid of assistants and apprentices. On small stones the cutter works alone, but on larger ones it is not infrequent to see a cutter employ as many as 10 to 15 artisans, to whom he pays fixed wages, but whose work he superintends. When about to polish larger stones, the cutter frequently divides the work, giving, for instance, the 4 first facets from top to bottom to one man, to another the following 4 facets, finally having the gem finished by his most competent help. Small stones are generally intrusted to cutters who have just completed their apprenticeship, but are not yet sufficiently skilled to handle the larger stones. These are given only to the experienced workmen who have the fullest knowledge of their trade and enjoy the confidence of the master cutters.

The diamond cutter therefore is a labor contractor, indeed, whose profits increase or diminish according to the rapidity with which he does his work. Eliminating the master cutters who employ assistants, I learned that the returns to the ordinary diamond cutter who undertakes and completes his work himself average between $15 and $30 per week for 9 hours work a day and no work on Sundays. This indicates a very prosperous condition of this industry at Antwerp at the present time.

HOW THE TRADE IS CARRIED ON.

As is well known, the traffic in rough stones is centered in London, as nearly the entire product of the mines of the Cape of Good Hope is in the hands of a powerful syndicate there, from whom the manufacturers are obliged to get their supply. Every week the mail from the Cape brings thousands of carats of rough diamonds, just as they come out of the mines. These stones are sorted in London into lots, according to their quality and size, and then offered for sale to merchants and manufacturers, who, in order to judge of the value of the rough diamond, must possess great practical and theoretical knowledge of the article. The principal factors determining the value of the diamond are its color, its purity, and the regularity of its form. The color is valued according to its rarity. Purity appears to be the most essential quality, because every flaw diminishes the value of the stone, and furthermore, only 5 per cent of the production of the mines are absolutely pure. Regularity of form also plays an important part in the valuation of a diamond, because upon this depends, more or less, the quantity of waste in cutting and the size of the finished article. Therefore, in judging large rough diamonds, the dealer has to proceed with the greatest caution, for any slight flaw, which one might think to be merely on the surface, and consequently easy to remove, may, in

the process of cutting, penetrate the whole diamond and occasion serious loss.

In buying and selling diamonds the weight of the gems has much to do also in determining their price, and this weight is gaged by a scale peculiar to this trade only.

STANDARD UNIT NEEDED—BRILLIANTS AND ROSES.

Mele diamonds are the small mixed ones weighing less than one-fourth of a carat or 1 grain. After this weight the dealers usually count by grains, 1, 2, 3, 4, 5, 6, up to 12 grains, after which the term carat is used. That is to say, a carat is equal to 4 grains, but it is not customary among merchants to speak of carats under 12 grains. Thus: One-half carat is 2 grains, 2½ carats are called 10 grains, etc. However, the unit weight used for the sale and purchase of the diamond is the carat, which equals about $205\frac{5}{10}$ milligrams, though the weight differs in different countries. The carat of France is the lightest, that of Leipzig a trifle heavier, and that of Holland and Antwerp the heaviest. This difference in the weight of the carat has led to many difficulties, and an attempt has been made time and again to reach a universal standard, but the conservatism of some markets and the false pride of others have prevented complete success in this direction. There has been a strong movement to introduce the metric carat, which would do away with all the difficulties arising from lack of uniformity. The metric system is already legally adopted in France and Spain, while in Belgium and Holland strenuous efforts are being made to bring about legislation with this object in view. The greatest opposition, however, is met with in England, and as the largest market for rough diamonds is in London there is little hope of the metric carat becoming universal until British prejudice has been overcome.

Not all diamonds are what they seem. There are two kinds—the real diamonds, called the "brilliants," and the "roses," the latter of which are used to meet the popular demand for diamonds in spite of higher prices. In my former report on this subject I explained that in the cutting of diamonds the rough crystals are first examined, and as far as possible they are chipped into shape by tiny wedges before being actually cut and polished on the revolving wheel. The various flakes thus chipped off are themselves cut and polished to the best advantage, to form "rose" diamonds, while the bulk of the crystal is cut into a "brilliant." Obviously, then, roses are cheaper and also less bright than brilliants; but their judicious use, either with brilliants or with colored stones, enables manufacturers to produce articles which readily take the public fancy, and which, by the trade, are used to replace wholly or in part the all-brilliant goods of the earlier times, and very effectively, too.

SELLING PRICES—SHIPMENTS TO UNITED STATES.

With regard to the cost of the diamonds, certain parties have tried to establish prices by a scale, sliding in proportion to the size of the diamond. Nothing, however, could be more arbitrary, inasmuch as the value of diamonds, besides the ordinary fluctuations caused by supply and demand, depends on thickness, length, transparency, color, purity, polish, and country of origin. Besides this, the scarcity or abundance of stones, the demands of the market, sales—whether made for cash or on credit—the financial rating of buyers, etc., all

these influence to a great extent the selling price. Again, a brilliant weighing 3 carats will cost nine times as much as another would that weighs only 1 carat, and an 8-carat stone would cost 64 times as much, etc. It is therefore utterly impossible to ascertain or fix the market value of diamonds.

Formerly Paris enjoyed the monopoly of the cut diamond trade, in view of the fact that the Antwerp and Amsterdam merchants at that time sought no direct market, but were content to sell the product of their factories to the merchants of that city. Certain French houses made enormous fortunes by thus acting as middlemen, for it was to Paris that the jewelers of the entire world came for their supply. To-day all this is changed, and it is to Antwerp and Amsterdam that the buyers come as the leading diamond markets of Europe.

Diamonds are considered the most expensive of all luxuries. When two years ago the financial panic broke out in the United States there was a great falling off in the diamond trade of Antwerp, and especially in the exportations of these precious stones to our country. However, ever since the early part of last summer this trade has revived, and a boom has set in, carrying the sales of diamonds up to an unprecedently high figure, as will be seen from the following tables, showing the value of exports of diamonds to the United States from Amsterdam and Antwerp for the past five years:

Year.	Amsterdam.	Antwerp.	Year.	Amsterdam.	Antwerp.
1909	$12,441,243	$12,914,798	1906	$12,435,161	$6,448,894
1908	4,571,804	4,406,366	1905	10,425,814	6,465,464
1907	7,905,852	6,283,576			

[The imports of diamonds into the United States during the past calendar year aggregated $36,159,054 in value, against only $11,538,130 in 1908, $27,691,877 in 1907, and $37,060,237 in 1906.—B. of M.]

TUNGSTEN ORES.

SPAIN.

WORKINGS OF THE MINES AND USES OF THE METAL.

In answer to an inquiry from a Pittsburg company, Consular Agent Harry A. McBride, of Bilbao, furnishes the following information concerning the tungsten mines of Spain:

The highly valuable form of tungsten ore known as wolframite is found in the Spanish Provinces of Pontevedra, Corunna, Orense, Salamanca, and Caceres. A lower grade of tungsten is also found in the Province of Cordoba, but in very small quantities.

Mines have but recently been opened, and the exportation of the ore began about 1903. Owing to the mountainous character of these provinces, the distance of the mines from the railroads, and the expense of machinery and fuel, the mining, in order to be profitable, must be done on a very large scale, and at present only one company (an English company) is working with modern machinery and raising important quantities of ore. This firm owns several mines in Pontevedra, Corunna, and Orense, the most important being the mines at Carbueira, Pontevedra, and those at Noya, Corunna. These mines

produce from 200 to 300 tons of wolframite per year (about four-fifths of the entire Spanish output), all of which is exported to England. The other mines in these provinces are insignificant, producing annually from one to five tons. The principal mines in Salamanca, the second of importance in Spain, are near the village of Barruecopardo, in the northeastern part of the province, and are owned by a German firm. These mines extend over 590 acres of ground and, as yet, only the surface ore has been touched, of which from 40 to 50 tons have been obtained annually since 1904. This amount has all been bought by German firms. The production for the first two months of 1910 was 11 tons. Borings having been made to a depth of 98 feet and the richness of the territory proven, the firm is now endeavoring to secure sufficient capital, and estimates that about $43,000 will be necessary to properly work the mine.

MINOR OPERATIONS—QUALITY AND ANALYSIS.

Other mines in Salamanca are at Navasfrias, in the southwestern part of the province, very near the Portuguese frontier, from which about 20 tons in all have been obtained. There are several other small mines of very little importance. The principal mines of Caceres are in the northeastern part of the province, near the Navasfrias district, and only a few miles distant from Portugal. The annual production of the remaining mines of this province does not exceed two or three tons. The mines are small and owned by stock companies composed of large numbers of the farmers of that vicinity, who ask exorbitant prices for their shares, making exploitation almost impossible.

The quality of the wolframite obtained from these provinces is of the highest, and analysis of the ore, just as it is raised, averages from 60 to 65 per cent pure. In the form of concentrates, the average is from 68 to 72 per cent. Generally the ores from northern Salamanca average the highest.

In combination with the wolframite from the provinces of Salamanca and Caceres, arsenical pyrites (mispickel) is found in large quantities. In the Navasfrias and Acebo mines the two minerals are so thoroughly mixed that it is necessary to burn out the arsenic in order to make the wolframite marketable. Farther north, in the Barruecopardo district, the formation is quite different. Here the arsenic is also found in large quantities, but it comes separated from the wolframite and makes a valuable addition to the products of the mines. Several tons have been exported at various times. Pieces of pure arsenical pyrites two feet square have been found here. In Pontevedra, Corunna, and Orense no arsenic is found, but quantities of tin are mixed with the wolfram ores.

The entire Spanish production of tungsten ores is exported, none being manufactured in this country.

Just over the Spanish boundary, in the Portuguese province of Beira Baja (Castelho Branco district, five miles from the town of Silvares), are located two important mines owned by a London company. This company was formed in 1908 with a capital of £100,000 ($486,650), and has erected mills, turbines, electric and gas plants, shops, etc., costing $90,000. The property consists of 1,256 acres of land and is only a few miles from the Navasfrias and Acebo mines. The quality and formation of the ore is precisely the same as that

taken from the Spanish mines above mentioned. The following article, taken from the prospectus of this company, as published in a London newspaper, may be interesting:

WORLD'S OUTPUT OF TUNGSTEN AND ITS USES.

The world's output of high-grade wolfram ore is limited and is estimated to average about 4,000 tons over the past four years. Apart from the use of wolfram for chemical purposes, the demand for wolfram for the manufacture of high-speed tool steel is very large and steadily increasing. The use of wolfram steel for motor cars is becoming general in cars of high-class manufacture, particularly by the French makers. Wolfram is also used in the manufacture of electric lamps.

The manufacture of wolfram metal, which is also known by its trade name of tungsten metal, has been almost exclusively in the hands of German manufacturers; consequently the large English steel works manufacturing ordnance, gun forgings, armor plate, and high-speed tool steel and other forms of steel in which wolfram is employed have always had to depend on the foreigner for their supplies of metal. It is proposed at a later date to establish works to convert this company's output into tungsten metal, which should be a source of further large profits.

The article also states that the cost of producing wolframite is $272 per ton.

PORTUGAL

EXTENT OF MINING AND EXPORTATION OF USEFUL MINERAL.

Consul-General Louis H. Aymé writes from Lisbon that tungsten, in the form of concentrates containing 65 to 72 per cent of tungsten trioxide (tungstic acid), is produced in Portugal in increasing quantities.

In 1905 the production was 320 tons; in 1906, 629; in 1907, 702; in 1908, from Oporto alone, 358; and last year, also from Oporto alone, 489 tons were produced and exported. I have not been able to obtain the figures for exports through other custom-houses, but as the total production of the 8 principal mines is given at 630 to 760 tons of concentrates, the production is evidently increasing.

The principal mines are in the northern part of the country. The best producing ones are under the control of 8 important companies, with offices in Paris, Berne, Brussels, Marseilles, and London. From the tax list of last August, the latest official information given out by the Mining Bureau, I have compiled a list of 30 other mines which are not yet producing appreciable quantities of tungsten.

All sales of concentrates are made by the companies in their foreign offices; no sales whatever are made by the managing directors of the mines themselves. The complete output is exported to England, Germany, and France; Germany taking the largest share with France following closely. The total output for 1910 has already been purchased. The prices paid vary a great deal. Prices are calculated per unit of tungstic acid. In 1909 this price varied between $6 and $11.20 per unit, while on February 15, 1910, the price varied between $8.75 and $9.25.

Two lists are forwarded, one of the great producing mines, giving their corporation names, offices, locality of the mines, percentage of tungstic acid per ton of concentrates, and annual production; the other giving the names of the concessionaires, names of the mines, and localities. [These lists are filed for public reference at the Bureau of Manufactures.]

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COAL TRADE.

WALES.

STEAM AND BITUMINOUS DEPRESSED—ANTHRACITE IN FAIR DEMAND.

In furnishing the following report, covering the coal trade of Wales, Consul C. Ludlow Livingston, of Swansea, calls attention to the British field for American anthracite-burning stoves, and to the exports of Welsh anthracite to Cuba, which he thinks should be supplied from the United States:

The coal trade of South Wales for the past six months has been anything but flourishing. Steam and bituminous coals have been very depressed; for anthracite, however, there is a growing demand, the bulk of the output going to France, Germany, and Italy.

It is surprising to find that, except in the immediate vicinity of the collieries and where the coal is, consequently, cheap, there is very little anthracite coal used in this country for domestic purposes, while in France, Germany, and Italy anthracite is used extensively for such purposes, probably because anthracite stoves are used on a large scale therein and their advantages appreciated.

In Great Britain anthracite stoves are rarely seen, and up to the present British-made stoves have failed to gain favor. The British seem to stick to the old custom of open fires, and even in the anthracite district the coal is invariably used in open grates.

There is certainly a good field here for American stoves, if properly introduced and their advantages demonstrated.

Anthracite is used in Great Britain principally for malting purposes, barley drying, hop drying, heating greenhouses, lime burning, suction and power gas producing, and, on a small scale, in steel works. Since the introduction of suction and power gas there has been a continuously spreading demand for anthracite nuts, beans, and peas, which run in the following sizes: Nuts, 1¾ to 2½ inches; beans, ¾ inch to 1¾ inches; peas, ⅜ to ¾ inch. These coals are invariably well screened and washed, so that there is practically no slack, shale, or foreign matter to be found therein, which is a great advantage and very essential for suction and power gas plants.

COAL FOR CUBA—PRICES AND MINERS' WAGES.

On March 10 a German steamer cleared for Matanzas and Cardenas with 2,497 tons of anthracite nuts for the former port, and 1,200 tons for the latter port. The nuts were 1 to 1¾ inches in size, and were washed at the mine prior to transportation. The f. o. b. price was equal to $6.03 per ton (2,240 pounds), and the rate of freight was $1.82 per ton.

A selected sample of the cargo would analyze as follows: Carbon, 91.50; hydrogen and oxygen, 3.59; nitrogen, 2.34; sulphur, 0.78; ash, 1.79; total, 100.

It would appear that these carbon markets might be secured by the Pennsylvania anthracite mine owners.

The current prices of anthracite coals are as follows, per ton: Stanllyd hand-picked malting, large, $5.34; the same, second quality, large, $4.62; the same, inferior, large, $3.40 to $3.64. Machine made: Cobbles, $5.34; nuts, $6.07; beans, $5.10; screened beans, principally used for steaming, $2.43; machine-made peas, $2.67; duff, 78 cents.

In the Swansea valley district the anthracite miner earns $2.18 per day, and the wages of the other employees would range as follows, plus 45 per cent per 8 hours: Surface laborer, 74 cents; surface foreman, 81 cents; hauling engineer, 94 cents. Underground workers: Laborer, 80 cents; hauler, $1; repairer, $1.10; shotman, $1.20; loco-driver, 99 cents. Foreman or fireman, responsible for the safety of the mine, $12.75 net, per week.

DENMARK.

CONDITIONS WHICH AMERICAN PRODUCERS WOULD HAVE TO MEET.

Consul-General Wallace C. Bond, of Copenhagen, furnishes the following statistics covering the coal supply of Denmark that American producers may arrive at conclusions as to their ability to secure a share of the trade:

The coal imports of Denmark amounted to 2,400,000, 2,700,000, and 2,800,000 tons, in 1906, 1907, and 1908, respectively. Of the annual import, slightly over 1,000,000 tons are delivered at Copenhagen, the balance being distributed among other Danish ports. The coke imports average about 250,000 tons a year. Virtually all coal and coke imported comes from Great Britain except several thousand tons from Westphalia, Germany. The import of briquettes from Belgium is inconsequential.

The attempt to introduce American coal some ten years ago was a failure, the reasons given being that it was too soft. No further endeavors have been made, as it is claimed that the ocean freight will always bar American coal from the European market. In order that American coal exporters may understand the situation and decide whether they can compete here, the following statistics showing the kinds of coal consumed in Denmark, whence imported, and the retail and wholesale prices, are given. Wherever pounds are used as quantities, they mean American, not Danish, pounds—100 Danish equaling 110.25 American pounds:

Coal for domestic purposes: Semibituminous nut coal from Scotland, thrice screened, is principally used, the import price of which is about $3.15 to $3.40 per ton, c. i. f. Copenhagen, freight rate 85 to 97 cents. Wholesale price, 24 cents per 110 pounds; retail price, 70 cents per 298 pounds. Welsh and Scotch anthracite is also used for domestic purposes; wholesale price of the Welsh, 55 cents per 110 pounds; retail, delivered, $1.74 per 298 pounds. Wholesale price of Scotch anthracite, 40 cents per 110 pounds; retail, delivered, $1.34 per 298 pounds. Coke from local gas works and from England is also used for domestic purposes, and sells, wholesale, at 52 cents per 176 pounds, and at retail, delivered, 60 cents per 176 pounds. Briquettes, in small quantities, are used for domestic purposes, the large-size Belgian selling at $1.34 per 100.

Coal for power and industrial purposes: Navigation coal from Scotland, delivered from ship, sells, at wholesale, for $4.82 per ton. Steam coal, from Newcastle, sells, wholesale, delivered from ship, at $4.56 per ton, and Scotch steam coal, delivered from ship, from $4.30 to $4.82 per ton.

The size of cargo is generally 1,200 to 2,500 tons.

MINERAL DEPOSITS.

FRANCE.

CONSIDERABLE INCREASE LAST YEAR OF FUEL AND METAL.

From provisional statistics by the Ministry of Public Works, Consul-General A. Gaulin, of Marseilles, gives the coal and iron production of France during the past year:

The coal output was 37,971,758 metric tons, including 37,258,205 tons of bituminous and anthracite coal and 718,553 tons of lignite. In 1908 the total output of the French mines was 37,384,384 tons, in which were included 36,632,734 tons of bituminous and anthracite coal and 751,660 tons of lignite. The net increase in 1909 is therefore 587,374 tons. The principal coal-producing departments were: Pas-de-Calais, 18,409,579 tons; Nord, 6,522,222 tons; Gard, 2,033,700 tons; Saône et Loire, 1,937,874 tons. The other departments did not reach the million-ton mark.

The following statistics of pig-iron production in France show an increase of 231,334 metric tons in 1909 (metric ton=2,204.6 pounds):

Pig iron.	1908.	1909.
Forge	532,398	538,053
Foundry	703,644	749,247
Bessemer	122,708	118,002
Thomas	1,979,999	2,172,718
Special	62,022	54,085
Total	3,400,771	3,632,105

PORTUGAL.

COPPER, SULPHUR, AND TUNGSTEN MAKE UP CHIEF VALUE.

Consul-General Louis H. Aymé, of Lisbon, writes that, in reply to a request for the latest information regarding mines in Portugal, the Minister of Finance furnishes the following figures for 1908:

Of the ten minerals mined, copper is the most productive, 97,477 metric tons (metric ton=2,204 pounds) of concentrates, varying from 0.96 to 70 per cent, having been produced, with a value of $632,254. Sulphur follows, with 24,522 metric tons, of the value of $596,478. Tungsten comes third, with 620 tons, of the value of $240,052. The total production of all of the mines for the year was $1,786,626.

Further details are given in the following table, which shows the percentages, weights, and valuation of the 10 most important minerals produced in the kingdom:

Minerals.	Percentage.	Metric tons.	Value.	Minerals.	Percentage.	Metric tons.	Value.
Antimony	28 to 58	76	$2,826	Copper and lead	.....	142	$3,123
Arsenic	95	1,655	90,360	Gold	.....	a1,832	36,990
Auriferous silver	.....	2,244	58,770	Lead	52 to 67	481	9,225
Coal	.....	4,614	19,912	Sulphur	49	24,522	596,479
Copper	2.5 to 30	15,313	58,001	Tin	60	28	9,153
Copper matte	44	564	56,629	Tungsten	65 to 70	620	240,053
Copper precipitates	53.22 to 70	3,041	386,150	All other	.....	.....	90,504
Copper and iron pyrites	0.96	81,417	128,551	Total value	.....	.....	1,696,122

a Troy ounces.

There were employed 7,160 persons in mining—6,426 men, of whom 2,889 worked below ground and 3,537 above ground, and 734 women, who all worked above ground. The fatal accidents during the year were 9, or 1.25 per thousand.

ENGLAND.

COAL-FIELD DEVELOPMENT—NARROW PROFIT MARGIN.

Consul Benjamin F. Chase, of Leeds, states that the development of Yorkshire coal fields in recent years has been marked, and large, well-equipped collieries are being established in various parts, some of them fitted for a daily output of 4,000 tons. The new openings in 1909 represent an outlay of about $1,500,000. The railroad consumption is large, and $2.07 per ton at the pit mouth was the contract price for this trade in 1909, a reduction of 24 cents from 1908. However, for 1910 the colliers demand $2.25, while the railroads offer $2.19 per ton. The price of house coal advanced 24 cents a ton beginning the first of the year, making it higher than the highest price in 1908. The eight-hour act came into force in Yorkshire in July last, while it only became effective in the Northumberland and Durham fields on January 1, 1910, and a general unsettled condition remains, although the outlook is considered brighter.

MEXICO.

TULA PROPERTY TO BE DEVELOPED BY AMERICAN CAPITALISTS.

In reporting the purchase of the Tula mines and iron works in the Mexican State of Jalisco, by an American syndicate, Consul Samuel E. Magill, of Guadalajara, says:

For years excellent ore was mined and iron produced, but the 16 miles distance from the railway, and the topographical difficulties made the business unprofitable. The syndicate purchased the property for $500,000 gold, and will form an American corporation with $5,000,000 capital for development. There are about 100,000 acres underlaid with ore in which are two shafts. One analysis showed 68.2 per cent iron, 0.048 phosphorus, 0.182 sulphur, 2.72 silica, 0.09 alumina, with traces of manganese and lime. Another analysis gave 64.6 per cent iron, 0.065 manganese, 0.055 phosphorus, 0.309 sulphur, 5.41 silica, 0.21 alumina, 0.28 lime. The new company has not decided whether it will ship the ore, or erect a modern steel plant; both lines may be followed. It is also announced that the company is placing a $750,000 bond issue in France, that it will use charcoal exclusively in making iron, and will build tramways.

ARGENTINA.

RESOURCES OF THE ANDEAN TERRITORIES AWAITING DEVELOPMENT.

In transmitting an official publication, covering the working of the mines of Argentina in 1908, Consul-General R. M. Bartleman, of Buenos Aires, writes as follows concerning the mineral resources of the Andean region:

Gold, silver, lead, copper, iron, tin, zinc, and antimony are found at various places in the territory of Los Andes, a district rich in

minerals. The ore in La Concordia group of mines contains, on an average, 2.62 per cent of copper, 12½ per cent of lead, and 2,034 grains of silver to the ton. The mineral of the Recuerdo mines, a mile from the Concordia, has given 33 to 41 grains of gold and 635 to 1,679 of silver per ton, besides lead, iron, copper, tin, zinc, and antimony. The borate of lime mines in Los Andes have not yet been worked. During 1908 a gold mine company obtained $16,234 worth of gold from 5,690 tons of ore in the Nilia Michi-Co and Malal Caballo district.

A limestone quarry was worked in 1908 in the Rio Negro Territory, and numerous concessions for salt mines were granted in the Territory of Santa Cruz. The auriferous sands of Tierra del Fuego are being worked, but by primitive methods.

Copper ore has been discovered in Missiones Territory, for the working of which applications have been made. The completion of the railway to Posadas, together with the good river communication of this territory, will greatly assist the placing of this copper on the market.

The mineral resources of the Andean and other parts of Argentina are susceptible of great development, and their production will greatly increase with the completion of the many railways, such as the international line from Latta to Mejillones, Chile, which are now being built in the mountain districts of the Republic.

ENGLISH SAFETY MINE LAMP.

DEVICE CAN NOT BE RELIGHTED BY MINERS EXCEPT WITH MACHINE.

In view of the number of explosions in coal mines, Consul Benjamin F. Chase, of Leeds, has investigated a British safety lamp for miners, which can not be relighted except under conditions which make it free from dangers. The consul witnessed practical demonstrations of the lamp, and describes it:

The body of the lamp is cast from brass and the globe-holding ring is made in the same way. The safety gauze, which is of the regulation gauze or perforated copper, is shielded from accident by a steel hood. The lamp is so constructed that the absence of any material part prevents its locking, and it is therefore unlikely that it would be lighted and delivered to the miner unless it is in proper condition, i. e., has the gauze in place. The lock is composed of two pieces of iron with a coil spring connecting and can only be released by using an electro-magnet much more powerful than an ordinary hand magnet.

By the testing process through which each lamp is put any defects which take away the safety are exposed. The lamps are tested by a machine which produces a mixture of gas and if there is any defect in the gauze which would produce an explosion it is disclosed. This appliance is also simple of operation and is made for use at the mine. The oil-filling machine works semiautomatically.

The lamp can be lighted instantly on the machine which goes with a complete outfit and a relighting machine for use under ground is so arranged that it can not be operated until all danger of contact with outside gases is removed.

The lamp has the general appearance of other safety lamps, but has some special features, to wit, a magnetic lock which can not be

opened without the use of an electro-magnet so that men can not open it in the mines and it does not require lead locks or keys; a wick tube which makes the process of examining the wick or rewicking simple and easy; an electric lighting pin which makes it easy to light the lamp, after being put together, on one of the lighting machines which are for installation at the mines; also a simple device for snuffing the wick. It also has a spring valve on the oil bowl which makes filling an easy process. With these conveniences the lamp when cleaned and put away needs no attention until the man is ready to go to his work, when it can be instantly lighted and is secure.

UNLOCKING AND LIGHTING DEVICES.

The unlocking machine is composed of an electro-magnet, which is put in contact with the bolt at the base of the lock and presses it until contact is made with the lock bolt and the lock is released, and by a turn the globe and gauze are removed.

The lamp-lighting machine for use in the office or lamp room is so arranged that by placing the lamp on a plate provided for it and depressing the same a current is formed and the lamp is lighted ready for use. A relighter for use in the mine is so constructed that before the contact can come the receptacle is closed and flame tight. This can be operated by the men underground with perfect safety. It is composed of a lamp chamber over the generator and coil chambers. The lamp is placed in position, the door closed, and the body of the chamber has to be revolved to a point which takes away all danger of gas connection before the electric current will act.

While many of these lamps are in use in England and other parts of the world, no attempt has yet been made to introduce them into America. The makers claim that no disaster from gas explosion has ever occurred in a mine fitted up and using their appliances, and an examination of the process of manufacturing and the safety appliances in use in connection with these lamps would cause one to believe that this claim is well founded.

The important feature of these lamps is the fact that when lighted and locked, which is the work of an instant, the miner has no means of exposure to danger by thoughtlessness or inquisitiveness, and no companion can furnish a key by which the lamp can be unlocked. They seem to be made with the object of perfect safety and to meet that requirement.

DEMONSTRATIONS TO BE MADE.

In addition to the foregoing, the Bureau of Manufactures has a letter from Ackroyd & Best requesting that the firm be placed in communication with owners of mines in the United States, and especially of "gassy" mines, with a view to making practical demonstrations of their safety lamps. It is proposed by the firm to send several sets of the devices in charge of their representatives. Mining authorities of Pennsylvania and West Virginia have been notified of the desire of Ackroyd & Best, and it is probable arrangements will be made to have the lamps tested in May. The United States Geological Survey is engaged in a special investigation of safety devices for mines, and Director Smith will include the Ackroyd & Best lamps in this inquiry. Consul Chase furnished the Bureau of Manufactures with several of the safety lamps and appliances, and also a number of photographs, which have been turned over to the Geological Survey.

ASBESTOS IN CANADA.

MINES AND MINING IN THE PROVINCE OF QUEBEC.

Consul Gebhard Willrich, of Quebec city, furnishes the following information concerning asbestos mines and mining in the Canadian Province of Quebec, in answer to an inquiry:

There are approximately 18 mills in this Province producing crude asbestos, prepared ready for the manufacturers' use. Within the next twelve months there will probably be half a dozen more mills in operation, as several new mining companies have recently been formed.

Most of these asbestos mines are located in the Thetford district in Megantic County, about 115 miles to the southeast of this city. There are a number of other producing mines in the adjoining counties, but the quality of the asbestos found there is said not to be quite as good as that mined in the Thetford district.

A company composed of American and Canadian capitalists controls eight of the Thetford properties, the remainder being independent concerns, mostly stock companies.

THE INEXHAUSTIBLE DEPOSITS.

The abundance of the raw material in the district mentioned insures an ample supply of the crude asbestos for manufacturing purposes, even should there be a marked increase in the demand for the manufactured articles. The deposits, as far as known, are considered inexhaustible, and the mines now in operation and those to be opened in the future will be able to meet all demands of an expanding market. It is known that large asbestos deposits exist in what is practically an unexplored region around Lake Chibogamo, and in other parts of this province north of the St. Lawrence River. These deposits have remained undeveloped owing to lack of transportation facilities.

Asbestos goods are not made in Canada, but three factories are in course of construction for such manufacture. It is safe to say that the Province of Quebec is now, and in all probability will remain, the source of supply of most of the asbestos needed in Canada and the United States. It is also safe to assume that the manufacture of this article in this province will become an important industry, because the profits of such manufacture are said to be larger to-day than those of any other commodity. The profits to the miner of asbestos, on the other hand, have been greatly reduced owing to the keen competition which has sprung up.

EXTENT OF PRODUCTION.

The statistics for this Province for 1908 show that, of all minerals mined, in value asbestos holds first place—$2,551,596, compared with $5,493,664 for all the other minerals. The production of asbestos by classes for the year was as follows: First class, crude, 900 tons, $261,216; second class, crude, 2,771 tons, $438,305; fiber, 13,911 tons, $716,811; paper stock, 47,574 tons, $1,135,264; total, 65,157 tons, valued at $2,551,596. Besides the foregoing, $34,660 worth of asbestos was produced. Workmen to the number of 4,284 were paid in wages $1,066,774.

Great advances have been made in the production of asbestos during the last five years, due in a large measure to the development of electric power in the Province. [The names and addresses of asbestos companies in the Province of Quebec, furnished by Consul Willrich, are on file in the Bureau of Manufactures.]

MINING REGULATIONS.

MEXICO.

THE NEW ACT DEMANDS VIGILANCE OF OWNERS TO AVOID LOSS.

The following article, from the El Paso Herald, should be of interest to all persons interested in Mexican mines:

A leading mining engineer from Mexico remarks that it will be well for not only the newcomers in Mexico, but the old-time mine owners as well, to secure copies of the new mining code of Mexico and study the new law as soon as possible.

Many of the changes, he says, are so radical that ignorance of them may cause the unlucky owner to be some day dispossessed unwittingly of his property and subject to a heavy fine and imprisonment. Among other changes he calls attention to the following:

The most important article is that providing for the registration of all mining titles, old and new, under penalty of forfeiture. Titles issued prior to the commencement of the new law must be registered in their respective districts before July 1, 1910.

Properties titled under the old law must have monuments built on the ground before January 1, 1911, or the right to the property will be lost should another person denounce it. The penalty for destroying or removing any monument from a mining claim is a fine of ₱1,000 ($498) and five years in the penitentiary. Under the new law no title is issued until such monuments have been placed on the ground.

Anyone removing ore from a mining claim before the title to the same has been granted suffers the same penalty and the forfeiture or loss of the property.

Legal questions pertaining to mining properties will be decided by the federal court, and all old cases pending in the state courts concerning mining rights will soon be transferred to the federal courts.

As the former privilege of unlimited exploration zones was much abused, the new law has reduced the area of the exploration zone to a radius of 500 meters, about an easily distinguishable point as a center.

These are only a few of the radical changes made which it behooves investors in mines in Mexico to heed.

AUSTRALIA.

WORKING OF COAL MINES IN THE STATE OF VICTORIA.

An act for the regulation of coal mines, passed by the Australian State of Victoria, has recently come into operation. It also authorizes the establishment of state coal mines. Consul John F. Jewell, of Melbourne, outlines its provisions:

The state mines may be opened by the mines department, but when so opened up must be handed over to the railway commissioners to be worked. One of the most important provisions of the new act is that providing for the "bank to bank" principle, which provides that "no person shall be employed below ground in any mine for more than eight consecutive hours, inclusive of 30 minutes as meal time, or for more than 48 hours in any week, except in cases of emergency." After stating that an interval of at least eight hours shall elapse between "one period of being below ground and the commencement of the next," the law states that "a person shall be

deemed and is hereby declared to be employed below ground in the service of the owner of the mine, within the meaning of the act, from the time that he commences to descend the mine until he returns to the surface."

As previously reported, a large coal deposit was discovered a short distance from Melbourne. This mine is being opened up by the mines department and when a railway to the field is completed in March will be managed by and for the State Railways. It is asserted that from April 1, 1910, the mine will be able to supply 500 tons a day and that this output will be increased until in 1911 it will not be necessary for the railway commissioners to import any coal, as at that time the state mine will be able to supply all the requirements of the Victorian State Railways.

DUTCH GOVERNMENT ASSAYS.

FIXED STANDARDS OF GOLD AND SILVERWARE FOR HOME TRADE.

Writing from Rotterdam, Consul-General S. Listoe says that all Dutch manufactures of gold and silver bear the stamp of a government official to the effect that the contents have been assayed and found of the purity required by the law of 1852 and its subsequent additions and amendments.

This government supervision safeguards all purchasers of jewelry, silverware, and similar articles. Dealers detected in an endeavor to evade the provisions of this law are punished by forfeiture of their wares and a monetary fine, which increases with each offense.

The special tax on manufactures of gold and silver is, respectively, 15 florins ($6.03) and 0.75 florin ($0.30) per hectogram (2 ounces, 15 pennyweight, 10 grains, Troy weight) fine. There are four standards for gold, viz, 916, 833, 750, and 583 thousandths (22, 20, 18, and 14 carats), and two silver standards, 934 and 833 thousandths. A quality variation of 0.003 in gold and 0.005 in silver is allowed. Manufactures of gold under a purity of 0.583 are not guaranteed, but simply stamped to prove that the tax has been paid. Objects containing less than 25 per cent of either gold and silver are not considered as gold or silver ware. Assay offices are maintained at The Hague, Amsterdam, Rotterdam, Schoonhoven, Leeuwarden, Utrecht, Arnhem, Bois le Duc, Groningen, Alkmaar, and Dordrecht.

All articles coming under this classification must, on being imported into the Netherlands, be assayed and pay the legal tax. Goods manufactured for export are not obliged to conform to these regulations. There were exported, from the Rotterdam consular district to the United States, manufactures of silver valued at $71,559 during 1909.

TEXTILES.

FLAX AND HEMP IN RUSSIA.

THE EMPIRE THIRD AMONG THE COUNTRIES OF PRODUCTION.

The following statistics, covering the product and exports of flax and hemp, and their by-products, are furnished by Consul-General John H. Snodgrass, of Moscow:

Russia practically monopolizes the European hemp and flax market, ranking third in the production of these articles of the farm, being exceeded only by the United States and Argentina.

Though flax and hemp are grown in nearly all the provinces of Russia, they are particularly developed in the governments of Pskov, Tver, Smolensk, Voatka, Livonia, Vitebsk, Perm, Kovno, Vladimir, Kostroma, Yaroslav, and Mohilev, in the order named. There are 3,887,259 acres under flax cultivation, and 2,001,036 acres in hemp, yielding about 638,000 tons and 123,752 tons, respectively.

Flax and hemp take third place, preceded by grain and timber, among the commodities of Russia's exports. In 1908 the exports were as follows: Flax and tow, 281,600 tons, worth $33,610,960; hemp and tow, 64,900 tons, worth $7,234,205; linseed, 156,367 tons, worth $7,182,705; hemp seed, 20,450 tons, worth $760,140; linseed cake, 212,750 tons, worth $6,350,465; and hemp-seed cake, 38,483 tons, worth $846,660.

The value of the exports to the principal countries was as follows in 1908:

Countries.	Flax and tow.	Hemp and tow.	Linseed and hemp seed.	Linseed and hemp-seed cake.	Total.
United Kingdom	$12,768,395	$2,810,805	$2,963,825	$1,516,160	$19,559,185
Germany	7,103,910	3,767,225	1,894,685	2,851,040	15,616,860
Belgium	5,353,940	.....	485,645	.....	5,839,585
France	4,124,120	.....	179,220	.....	4,303,340
Denmark	.....	.....	.....	2,829,925	2,829,925
Austria-Hungary	2,631,650	126,690	.....	.....	2,758,340
Holland	.....	.....	1,290,075	.....	1,290,075
All other countries	1,628,945	1,029,485	1,129,395	.....	3,787,825
Total	33,610,960	7,234,205	7,942,845	7,197,125	55,985,135

During the first 11 months of 1909 the exports of fiber were as follows: Flax, $24,734,426; flax tow, $3,345,440; hemp, $4,742,635; hemp tow, $869,320; jute, raw and combings, $2,726,925; flax combings, $59,740; hemp combings, $15,965; manila hemp, nettle fiber, etc., $14,935; total, $36,509,386.

TRUST FORMED—NEW METHODS OF REFINING.

In order to increase and hold its trade with foreign countries and to govern the prices, a trust has been formed, and steps are being taken to extend and improve the plantations, so that a sufficient and

sure source of fiber supply, that can not be equaled elsewhere, will be grown every year.

There are 414 factories in Russia engaged in the flax, hemp, and jute industries, with an annual production valued at $36,050,000, giving employment to 52,000 persons. In these factories 367,690 spinning and 37,700 twist spindles are running, turning out linen yarn to the amount of 991,156,000 pounds per annum, and 12,380 linen looms, of which 11,581 are power looms and 799 hand looms.

The Russian Government is encouraging experimentation with flax and hemp and their products, and a number of discoveries have been reported during the past year and a half, chief among them being that of a Russian engineer, who states that he has evolved a method of separating the fiber from the raw hemp, which not only produces a higher percentage of long fiber, but also gives it without regard to time of year or climatic conditions, and which does not depend upon the quality or quantity of water used. Within three or four hours from the beginning of the process and without drying, ropes can be made from the fiber which are remarkable for their elasticity and softness, even when used in damp spots or even in water. He claims that he has found a method of refining flax and hemp fibers, by which they can be converted into long fibers more easily, with the result that they will be softer, cleaner, more elastic, and of a better quality for dyeing purposes. It has the additional advantage of enabling the coarsest kinds of Russian hemp to be worked up into No. 40 yarn, instead of Nos. 4 and 6, the counts now usually made from the coarse hemp.

He contends that his method will refine short and very small flax and hemp fiber from flax combings and tow, and from the grades of flax hitherto looked upon as worthless for Russian factories. It is claimed that a new type of spinning material is produced, similar to cotton wool, namely, flax wool, a cotton-like material suited to the needs of machines working up fine fibers. As a result of these experiments, the Ministry of Agriculture has been requested to erect a special mill for the continuation of the work, and that a special flax section be established at the Moscow Technical School.

Another Russian scientist has been experimenting with flax wadding for the purpose of testing its suitability or otherwise for spinning, taking full account of the economic as well as the theoretical side of the proposition.

Last year a party of specialists was organized to make the following investigations: (1) To conduct careful experiments on methods of refining flax-wadding filament and flax-mill waste; (2) to ascertain the properties of the refined product in ample quantities as obtained by the methods mentioned under (1); (3) to test the suitability of the refined product for spinning; (4) to make valuations of output, estimates of cost of production, etc., on larger scales; and (5) to examine textiles prepared from these products at the laboratories of the Imperial Technical College, Moscow.

Near the close of 1909 the staff of specialists reported that they had successfully demonstrated the practicability of tasks 1, 2, and 3, and they were amply justified in expecting great developments. It is stated by them that they have proved that the application of more economical cotton-spinning methods to flax is quite satisfactory and promises to be general.

AUTOMATIC BOBBIN MACHINES.

IMPROVEMENTS TO SWISS EMBROIDERY LOOMS EFFECT ECONOMIES.

Among recent inventions in the Swiss embroidery industry, Consul D. I. Murphy, of St. Gall, calls attention to several automatic bobbin machines that seem to be superior to those now in general use:

Instead of the usual arrangement of two spools from which the bobbins are wound, the machine invented by Adolph Saurer, of Arbon, has four, winding four bobbins at once. The winding is closely, smoothly, and regularly done, knots and tangles being avoided by regulating the thread guides. By a sort of brake "fluffing" is also prevented. The spindles are kept in motion by belts, which equalize the tension, and not by friction pulleys which possess the disadvantage of sliding and causing defective winding. While the machine ordinarily winds the bobbins closely, the tension may be lessened and the winding made of any required degree of firmness.

The machine is of simple construction, the wheels, shafts, and bearing being of hardened steel, and all parts easily accessible for lubricating and cleaning purposes. In this invention the main ideas seem to be to economize in thread and to turn out such perfect bobbins that in the finished embroidery there will be fewer defects that require mending.

THE AMSTUTZ-LEVIN MACHINE.

Another machine, put on the market by the Amstutz-Levin Company, of Rorschach, differs from that just described. It winds from two spools of thread, silk or wool, with equal facility, the bobbins being regularly and compactly wound and also free from knots or tangles. To insure economy of thread, there is an arrangement by which the speed is diminished while the center of the bobbin is being formed and gradually increased toward the finish. The average speed of the spindles is 1,100 revolutions per minute. What is not possessed by other machines is a mechanism that places the finished bobbins with wonderful regularity in oblong pasteboard boxes. These boxes are then placed in position on another machine patented by the same firm, which fills the shuttles and pulls the thread out of the eyelets.

It is claimed that 20 to 25 shuttles can be filled per minute, which means about 10,000 per working day. The filled boxes when placed on this machine feed the bobbins to the shuttles, which by a simple contrivance are previously put in long metal magazines. Several different operations follow, i. e., the opening of the shuttles, the filling in of the bobbins, the pulling of the thread through the eyelets, the closing of the shuttles, and placing them in wooden boxes in such manner that the points are not injured. An automatic brake stops the machine instantly at the will of the operator, and also when the magazine becomes empty. The particular advantages of this last-mentioned machine seem to be economy of thread and saving of labor, one person easily attending three or four machines.

I have seen all these machines in active operation and noted their simplicity of construction, their rapid and regular motion, and their evident economic value.

COTTON INDUSTRY IN CHINA.

CHILD LABOR AND WAGES—COTTON CLOTHING UNIVERSAL.

In a recently published letter Mr. Frank G. Carpenter described the cotton industry in China, the character of piece goods made in the Shanghai mills, and the wages paid operatives, a large proportion of whom are women and children. Mr. Carpenter writes:

Shanghai is preparing to manufacture for the new China. It is putting up factories and foundries, and starting all sorts of new industries. It has silk filatures which are producing bales of raw silk for our American weavers, modern flour mills equipped with Milwaukee machinery, and a cigarette factory owned by the American tobacco trust, which employs more than 1,000 hands. It has eight great cotton mills with several hundred thousand spindles, and some which have 80,000 or 90,000 spindles in a single establishment. In these mills over 30,000 Chinese men, women, and children are employed, and they are spinning and weaving cotton quite as well as in any of our American factories. The most of them are managed by Chinese foremen, and they give some idea of how the Celestials expect to make their own cloth in the future.

I went through the establishment of the Soy Chee Cotton Spinning Company, on the Whampoa River, the branch of the Yangtse which gives Shanghai access to the sea. The buildings cover several acres. They are of gray brick shadowed by huge smokestacks.

CHILD LABOR AND WAGES.

Over 1,000 men, women, and children are employed. I went through room after room filled with girls who were weaving and spinning, and saw 200 children tending the machines. Some of them were little tots not higher than my waist. The children were pulling baskets filled with bobbins about the rooms. The larger ones were tending the spinning machines. Their wages were about 4 of our cents per day, and the pay of the older hands ranged from that to 20 cents. The manager told me that he had many whole families employed in his factory—father, mother, and children all working, there being no law against child labor.

This factory works day and night, and there are quite as many children employed in the night shift as in the daytime. One thousand hands are always busy all the year through. Its chief product is cotton yarn for the domestic weavers. This is made up into bundles, which are then packed into bales of 400 pounds each and shipped all over the country. The yarn is woven into cloth on hand looms, and it supplies a large part of the clothing of the common people. I am told there are something like 300,000 spindles now working upon such yarn at Shanghai, and also a large number at Ningpo and Soochow. There is one big mill at Hangchow, one at Canton, and some at Hongkong, Wuchang, and Hankow. The labor is abundant and the people easily learn to handle the modern machinery.

The Chinese are rapidly introducing the better class of machines, and their mills are already about as well equipped as our own. A great part of their machinery is imported from England, and only certain specialties come from the United States. In one factory I found an American electric-light plant with 6,000 electric lamps burning, and in another there were modern fire machines, and the employers had a fire drill every week. In nearly every place the wages were as low or lower than those I have quoted, the highest price paid the men being something like 30 cents per day, while a good average wage was 8 or 10 cents. I found girls at work in all of the factories, and I know of none which does not employ children.

VAST CONSUMPTION OF COTTON CLOTH.

Our cotton factories should send their agents here to study the market. These people dress in cotton instead of silk, and most of the cloth used is spun and reeled by hand and woven at home. With the new civilization wages will rise and the Chinese will wear more cotton than ever before. At present it is safe to say that there are at least 400,000,000 of them who dress in such goods all the year round. They wear only one or two thin garments in the summer, but in winter they have several suits well wadded to keep themselves warm, and in the northern provinces they put on suit after suit as the weather grows colder.

Even at one suit of 20 yards to each person per year the amount of cotton used is so great that at least 8,000,000,000 yards are required. This amount is beyond comprehension. It would carpet a pathway 60 feet wide from the earth to the moon, or cover one more than 20 miles wide from New York to Chicago. Our total shipment of cotton goods to other countries is less than $33,000,000 a year, and all we send to Asia sells for less than $13,000,000. That which goes to China would hardly patch the knees of the Celestials, let alone make their clothes.

COTTON GOODS IN MANCHURIA.

INCREASED IMPORTATIONS LAST YEAR—AMERICAN TRADE POSITION.

Vice-Consul Charles L. L. Williams, in the annual report from the Newchwang consulate, notes a slight advance in the importation of American cotton goods at that Manchurian port during the past year. He gives the import statistics (in pieces of 40 yards, except where otherwise noted) for 1909 compared to 1908:

Articles.	1908.	1909.	Articles.	1908.	1909.
Sheetings:	*Pieces.*	*Pieces.*	Drills:	*Pieces.*	*Pieces.*
American	515,603	601,541	American	194,570	302,205
English	15,650	26,115	Japanese	52,200	102,375
Japanese	151,400	185,585	English	1,840	11,987
Shirtings, gray, plain:			Dutch		150
American	68,390	158,331	Jeans:		
English	67,253	112,370	American	43,990	86,057
Japanese	1,800	9,700	English	124,996	240,057
Shirtings, white, plain	110,751	160,203	Velvets and velveteens, yards.	297,569	463,961
Shirtings, dyed, figured	506	629	Handkerchiefs, dozens.	43,246	43,452
Shirtings and sheetings, dyed, plain	383	1,807	Towels, do.	88,222	178,662
Turkey-red shirtings and cambrics	8,968	18,870	Cotton yarn:		
Chintzes and plain cotton prints	5,635	17,224	Indian, tons.	4,455	6,087
T cloth	5,318	2,054	Japanese, do.	1,704	2,068
			English, do.	168	77

American sheetings, shirtings, and drills have held what market remains for them through sheer quality and in spite of rather than through the efforts of the manufacturer. In 1904, out of the 1,892,327 number of piece goods imported into Newchwang, 1,748,646 came from the United States, while of the 3,456,961 pieces imported in 1905, 3,456,961 were American. As will be seen from the statistical table for 1909 in comparison with aggregates in 1904 and 1905 the United States has slipped back from its monopoly of the Manchurian cotton goods market. The general trade of Manchuria is increasing, 1909 having been a record year with over $16,300,000 worth of exports.

Quotations for leading "chops" of American piece goods, 40 yards per piece, were at the end of February for sheetings: "Three Hares," $2.58; "Pony & Dog," $2.58; "Old Buffalo," $2.37; "Running Pony," $2.51; and for "Dragon" drill, $2.84.

Samples are also forwarded [and may be secured by the American textile trade from the Bureau of Manufactures] of cotton goods from the Chinese cotton mills of Shanghai, which are beginning to make their competition felt here. The sheetings were quoted at Newchwang per 40-yard piece: "Two Horse," $2.35; "Sheep," $2.12.

Owing to the recent unpopularity of Japanese-made goods, no quotations for their cotton manufactures have been published at this port for some time.

AUSTRALIAN WOOL EXPORTS.

STATISTICS OF SHIPMENT BY STATES FOR SIX-MONTH PERIODS.

Consul-General John P. Bray, of Sydney, submits the following statement showing the Australian wool exports, in bales, from July 1 to December 31, 1909, compared with the corresponding period in the two previous years:

State.	1909.	1908.	1907.	State.	1909.	1908.	1907.
Victoria	327,336	289,769	312,628	South Australia	138,128	137,173	142,915
New South Wales	477,450	536,430	486,433	West Australia	41,581	44,106	41,755
Queensland	138,632	118,068	100,043	Total	1,123,127	1,125,546	1,083,744

Considerable quantities of wool grown in one State are shipped from another, therefore the above does not show the actual production, but total over-sea shipments. The West Australian figures for December are estimated.

Fabrics from Nettle Fiber.

Consul Augustus E. Ingram, of Bradford, quotes from a Yorkshire paper an interesting statement that a Vienna firm, Kriessel & Siebert, had apparently succeeded in obtaining from nettles a snow-white pliant bulk of fiber, with merits halfway between those of cotton and linen, with the further great merit that it should be cheaper than either because of the limitless quantity of nettles that can be grown, with slight encouragement, in many regions. Fabric made of nettle fiber is nothing new—indeed it is stated that formerly housewives made their best sheets out of it—but hitherto no way has been found of separating the valuable fiber from the accompanying gums and waste on a commercial scale. It is said that the Austrian Government is undertaking the supervision of investigations and experiments on a decisive scale.

FOREIGN TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

COMMONWEALTH OF AUSTRALIA.

REGULATIONS UNDER THE TRADE DESCRIPTIONS ACT.

The law of 1905, requiring trade descriptions in the case of many articles, both of importation and exportation, contained in itself only the most general provisions, leaving to the Executive the framing of the regulations in detail. The chief rules contained in the law itself were two:

9. No person shall import any goods to which a false trade description is applied.

7.—(1). The regulations [authorized by the act] may prohibit the importation or introduction into Australia of any specified goods unless there is applied to them a trade description of such character, relating to such matters, and applied in such manner, as is prescribed.

The first set of regulations under the act was promulgated in 1906 (see Tariff Series No. 17A), and dealt both with imports and exports. A revision of the regulations affecting imports and containing many important modifications was promulgated in February, 1910, to go into effect April 1. The former regulations in respect to exports continue in force.

The first important modification is that wherever practicable the trade description shall be applied by label or brand directly to the goods themselves, and not as heretofore either to the goods or the coverings, at the option of the importer. The second change is that the trade description must be applied in as permanent a manner as practicable. According to the instructions to collectors, issued by the Department of Trade and Customs, the trade description must be so applied as to reasonably insure its reaching the customer. Stamping the feet of socks in chalk, labels stitched, or "tacked," or securely stapled to any article of apparel, are examples suggested in the circular, while labels pinned on, it is stated, would not be regarded as complying with the requirements.

It is explained in the instructions that anything in the nature of adulteration or used for the purpose of deceiving the purchaser as to the quality, substance, or nature of the piece goods will be considered "loading" or "weighting" and not ordinary dressing. The heavy dressing of rice flour in some cheap silks or of tin in certain other silks are cited as examples of loading or weighting.

CONCRETE ILLUSTRATION.

An illustration taken from the circular makes clear the actual working of the law. If a leather boot, manufactured in the United States, has a leather outsole, cardboard filler, and composition insole, it would require (1) to bear the trade description (e. g., label sewn to side lining, or a brand on the side lining or on the sole, inside or

outside) "Leather, cardboard filler, compo. insole, made in U. S. A.," and (2) to have stamped or impressed on the outer surface of the sole, legibly, indelibly, and conspicuously, the words "Leather, compo. and cardboard sole," or "Leather outsole, cardboard filler, and compo. insole."

While the revised regulations have the force of law on and after April 1, customs officers are instructed not to enforce any of the new provisions until after June 30. When during the intervening months articles are imported complying with the requirements of the former regulations, the collector will not detain the goods or require amended markings, but will merely inform the importer of the requirements, and request that future imports be marked in strict compliance with the law.

A full abstract of the revised regulations for imports follows:

The importation of the goods enumerated in the next paragraph is prohibited unless there is applied to such goods a trade description in accordance with this part. The goods to which the foregoing regulations apply are as follows: (a) Articles used for food or drink by man, or used in the manufacture or preparation of articles used for food or drink by man; (b) medicines or medicinal preparations for internal or external use; (c) manures [fertilizers]; (d) apparel (including boots and shoes), and the materials from which apparel is manufactured; (e) jewelry; (f) agricultural seeds and plants.

GENERAL REQUIREMENTS.

The trade description (a) shall be applied in the form of a principal label or brand affixed in a prominent position and as permanently as practicable to the goods, or where affixture to the goods is impracticable, to the coverings containing the goods; (b) it shall contain in prominent and legible characters a true description of the goods, and the name of the country or place in which the goods were made or produced; and (c) in cases where any weight or quantity is set out, it shall specify whether the weight or quantity so set out is gross or net.

ADDITIONAL REQUIREMENTS IN CERTAIN CASES.

Articles of food or drink.

In the case of articles used as food or drink by man, the trade description shall specify any deleterious substance contained, and in the case of any preservative substance the amount per pint or pound weight. If a food for infants is not suitable for general use for infants under six months, the trade description shall contain in legible characters and conspicuously displayed the words "not suitable for infants under the age of six months."

In the case of milk, the trade description shall describe the milk as condensed milk, concentrated milk, dried milk, or condensed skimmed milk, as the case may require. In the case of fruit, the trade description shall set out its condition as to cleanness and freedom from disease.

Medicines and medicinal preparations.

In the case of medicines or medicinal preparations for internal use, the trade description shall show the percentage by volume of proof spirit contained in the goods, if more than 17.5 per cent (equivalent to 10 per cent by volume of ethyl alcohol). In the case of all medicines or medicinal preparations, an explicit statement shall be made of the quantity or proportion of any of the following drugs, or the active principles, salts, compounds, derivatives, or preparations thereof: Bromides, iodides, chloral, chloretone, dionin, dormiol, paraldehyde, heroin, sulphonal, veronal, or any natural or synthetic hypnotic substance; or cantharides, cotton root, ergot, oil of pennyroyal, oil of rue, oil of savin, oil of tansy, oil of parsley, or any emmenagogue, or reputed abortifacient substance; or any drugs of vegetable origin being or containing any poisonous alkaloid, glucoside, or similar potent principle, or any derivative thereof; or acetanilide, exalgine, phenacetin, phenazone, or any allied analgesic or antipyretic substance; or any salt of arsenicum, barium, copper, lead, or mercury; or adrenaline or the like, bromoform, carbolic acid, chloroform, creosote, cresylic acid, hydrocyanic acid, free phosphorus, nitroglycerin, or methylated spirit.

Fertilizers.

In the case of manures, the trade description shall be indelibly branded upon the bags or other coverings, and shall include a statement of the name and percentage of each principal active constituent of the manure in terms of one or more of the following, as the case requires: Nitrogen, available phosphoric acid, and potash (K_2O).

Articles of apparel and piece goods.

In the case of articles of apparel and piece goods commonly used for the manufacture of articles of apparel, the trade description shall state the nature of the principal material of which the articles are made, and if they contain more than 10 per cent of fiber other than the preponderating fiber, the trade description shall set out the name of the principal fibers present or, alternatively, describe the material as being made of the preponderating fiber "and other fibers" (e. g., "wool and other fibers"). If substances other than ordinary dressing used in the preparation or manufacture of piece goods have the effect of loading or weighting the material the word "loaded" or "weighted" shall be included in the trade description.

In the case of boots and shoes of leather or any imitation thereof, the trade description shall set out the principal material from which they are made, and unless the soles are solid leather without admixture or addition other than ordinary fillers of cork or waterproofed felt, it shall state the nature of the admixture or addition, and a statement of the material or materials composing the sole shall be conspicuously, legibly, and indelibly stamped upon or impressed into the outer surface of the sole of each boot or shoe. In the case of leather, the trade description shall set out the name of each loading substance and the percentage thereof; provided that the following shall not be deemed loading substances within the meaning of this regulation: In the case of sole leather, glucose and sugar not to exceed 3 per cent together, and fats and oils not to exceed 5 per cent together; in the case of other leather, glucose and sugar not to exceed 3 per cent together, and fats and oils used in the manufacture and preparation of the leather.

Jewelry.

In the case of gold jewelry, the carat quality shall be conspicuously set out in the trade description, and shall also, where practicable, be legibly stamped or engraved upon each article. The words "rolled gold," "gold cased," "gold plated," or "gilt," shall be conspicuously set out in the trade description and also, where practicable, be legibly stamped upon each article of jewelry wholly or partly covered by gold. In the case of silver jewelry not marked with a British hall-mark, the degree of millesimal fineness (e. g., ".925 fine") shall be conspicuously set out in the trade description, and the number indicating such degree of fineness shall also, where practicable, be legibly stamped or engraved upon each article. When jewelry, not being gold or silver nor coated, is colored to represent gold or silver, the words "imitation jewelry" shall be conspicuously set out in the trade description and the word "imitation," where practicable, shall be legibly stamped upon the article.

Seeds and plants.

In the case of agricultural seeds, the trade description shall state the names of the seeds and their condition as to soundness, cleanness, and newness. "Sound" indicates freedom from disease and from damage or decay. "Clean" indicates freedom from seeds other than those named in the trade description, and from foreign substances. "New" indicates that the seed has been gathered during the immediately preceeding harvest time in the country named in the trade description. In the case of plants, the trade description shall state the names of the plants and their condition as to freedom from or affection by any disease or pest.

These regulations shall not apply to small packets of seeds received by post or to seeds imported otherwise than as merchandise.

MISLEADING SUGGESTIONS OF ORIGIN.

Articles falling under the classes (a–f) specified in the regulations must in all cases bear the name of the country in which they were made or produced. In respect to other articles, it is simply required that any description or indication applied must be accurate and must contain no misleading suggestion as to the goods or their origin. For

example, according to customs circulars, if goods, made in a non-English speaking country, bear any English words or indications of English words, the country of origin of the goods must be stated in conjunction therewith. This regulation does not apply to goods originating in the United States, which are not required to bear the name of the country of origin merely because they bear descriptions in English. But if the goods are marked with the name of an Australian seller or importer, it would be necessary to add to the marking the words "Made in U. S. A." or "Made in United States, America." The term "America" is not accepted as a sufficient indication of the origin of goods produced or manufactured in the United States.

BELGIUM.

PROPOSED INCREASES OF DUTY.

The new tariff bill introduced in the Belgian Chamber of Deputies by the Minister of Finance on March 18, 1910, is characterized by Consul-General Ethelbert Watts, of Brussels, as follows:

Under the new French tariff increases were made in the customs duties on metallurgical and other products which are largely imported from Belgium. The latter country is about to place upon wine, carpets, fruits, and articles of luxury, what are considered almost prohibitive duties. These rates are to apply to all countries, but the articles affected are imported principally from France.

The following statement of the proposed changes is taken from the British Board of Trade Journal:

[*Italics* indicate the wording of the present tariff, when different from that in the pending bill. 1 franc = 19.3 cents; 100 kilos = 220.46 pounds; 1 hectoliter = 26.417 gallons.]

Tariff No.	Articles.	Rate of customs duty.	
		Present.	Proposed.
		Francs per 100 kilos.	*Francs per 100 kilos.*
ex 14	Vegetables preserved in boxes or in bottles (including the weight of the receptacles forming the inner packing)	15.00	20.00
	Soft cheeses, other than common, soft, white cheeses	12.00	20.00
ex 17	Potatoes, early season, imported from January 1 to June 1	Free.	3.00
	Fresh vegetables:		
	Asparagus and spinach, early season, imported from November 1 to May 1	Free.	12.00
	Peas, broad beans, and haricots, early season, imported from November 1 to June 1	Free.	12.00
ex 22	Truffles	300.00	500.00
ex 25	Dried plums (prunes)	(*See below.*)	25.00
	Imported in casks of at least 180 kilos, or in sacks of at least 80 kilos, gross weight, without inner packages	15.00	.....
	Imported otherwise	25.00	.....
	Fruits not specially mentioned in the tariff:		
	Fresh—		
	Pineapples	30.00	50.00
	Nectarines or peaches	(*See below.*)	150.00
	Grapes, other than crushed grapes		150.00
	Other (including fruits, whole or cut up, preserved in their natural state or otherwise than in alcohol, as also candied fruits)—		
	Imported in cases, boxes, jars, baskets, or other packages of a weight of 20 kilos or less		50.00
	Imported otherwise		25.00
	Grapes	30.00	.....
	Other—		
	Imported in cases, boxes, jars, baskets, or other packages weighing 3 kilos or less	30.00	.....
	Imported otherwise	12.00	.....

Tariff No.	Articles.	Rate of customs duty. Present.	Proposed.
			Francs per 100 kilos.
ex 28	Olive oil, peanut oil, field-poppy oil	Free.	15.00
	NOTE.—The above-mentioned oils intended for industrial purposes may be delivered free of import duty on compliance with the formalities to be determined by the Minister of Finance.		
ex 32	Brandies of all kinds:		
	In casks of 50 deg. or less, by Gay-Lussac's alcoholometer, at the temperature of 15 deg. centigrade	*Per hectoliter.* 175.00	*Per hectoliter.* 250.00
	In casks, for every degree above 50 deg	3.50	5.00
	In bottles, irrespective of strength	350.00	500.00
	Liqueurs, irrespective of strength	350.00	500.00
ex 33	Machines, electrical, of cast iron	*Per 100 kilos.* 2.00	*Per 100 kilos.* 4.00
ex 38 and 29	Photographic apparatus of all kinds, not specially mentioned in the tariff (including detached parts and accessories)	(*See below.*)	15 *per cent ad val.*
	Photographic instruments and apparatus constructed for scientific purposes	Free.	
	Photographic apparatus, other	13 *per cent ad val.*	
ex 46	Wall paper, gilded, silvered, bronzed, goffered, or velveted	*Per 100 kilos.* 8.00	*Per 100 kilos.* 15.00
47	Perfumery:		
	Alcoholic—		
	(The duty on these goods shall not be less than that levied on articles included under the heading, "Other alcoholic liquids")	15 *per cent ad val.*	25 *per cent ad val.*
	Other—		
	Specially mentioned in the tariff	Free.	Free.
	Not specially mentioned	15 *per cent ad val.*	25 *per cent ad val.*
ex 49	Roofing slates	*Per 1,000 slates.* 4.00	*Per 1,000 slates.* 6.00
	Stones, polished or carved, not specially mentioned in the tariff	Free.	10 *per cent ad val.*
59	Soaps:		
	Perfumed or toilet—		
	In paste, powder, thin pieces, etc., in boxes, flasks, small jars, sachets, or other receptacles of the kind[a]	12 *per cent ad val.*	*Per 100 kilos.* 120.00
	Other[a]	*Per 100 kilos.* 6.00	50.00
ex 64	Carpets and tapestry of wool	15 *per cent ad val.*	20 *per cent ad val.*
	Carpets of jute and wool, the jute predominating	10 *per cent ad val.*	20 *per cent ad val.*
	Tissues of silk, except hand-made silk lace, and except velvet and plush of silk mixed with other textiles, the silk predominating in weight, but not exceeding 75 per cent,	15 *per cent ad val.* or *Per 100 kilos,* 700 00	20 *per cent ad val.*
69	Wines	Free.	Free.
	The following modifications are proposed in the excise duties (payable on imported wines)—		
	In bottles:	Excise duties per hectoliter.	
	Sparkling wines	60.00	200.00
	Other		80.00
	Imported otherwise than in bottles	20.00	[b] 40.00

[a] Including the weight of the inner receptacle.

[b] Besides paying the excise duty of 40 francs per hectoliter, wines imported otherwise than in bottles and exceeding 15 degrees Gay-Lussac, at the temperature of 15 degrees centigrade, are, under the bill, liable for each degree of alcohol over 15 degrees to a duty equal to that payable by brandies produced in Belgium.

PROPOSED INCREASE IN TARIFF RATES POSTPONED.

According to a notice in the Handelsmuseum of April 28, 1910, the bill providing for an increase in the rates of duty on a number of articles, mostly of French importation, recently proposed by the Belgian Government, has been temporarily postponed, and is not to be taken up before next winter.

COLOMBIA.

TARIFF RATES ON MINING SUPPLIES.

In the recent revision of the mining law of Colombia, enacted on December 7, 1909, the import duties on the following articles were

fixed at 1 cent (gold) per kilo (2.2046 pounds), with a surtax of 70 per cent of the duty:

Cyanide of potassium, zinc, metallic lead, litharge, reagents for assay laboratories in small quantities, machines such as pumps, crushers, concentrating mills, dynamos, electric motors; transmission wire, requisites for the application of motive power, whether hydraulic or steam, to mines; tubing and cables of iron, hemp or cotton, transmission belts of leather, cotton, hemp, rubber or admixtures of these materials; dressing and grease for transmission belts, lubricating oils, hose of rubber or of rubber and cotton, rammers for mills, drills, stone hammers, iron connections for tubes, nuts and axles of iron, fly wheels of copper or of iron, gunpowder, dynamite, percussion caps and fuse for mines, pulleys of iron; asbestos and mercury.

The law concludes with a detailed statement of the imposts established on mining.

COSTA RICA.

FIREPROOF BUILDING MATERIALS FREE.

Consul Samuel T. Lee, of San Jose, reports the following change in the customs tariff of Costa Rica:

By presidential decree, effective April 24, 1910, all fireproof roofing and building materials composed of asbestos and cement are placed on the free list.

CUBA.

COMMERCIAL BUREAU ADVOCATED.

Minister John B. Jackson writes from Habana that in a special message to the Cuban Senate the President advocates the establishment of a commercial bureau in the Department of State (Foreign Office), whose duty it would be to study and compile data bearing upon the negotiation of treaties with foreign countries.

TEMPORARY ADMISSION OF AUTOMOBILES.

Minister John B. Jackson sends an abstract of the Cuban treasury circular, dated April 5, 1910, by virtue of which tourists may enter free of duty (under paragraph 330 of the customs tariff) but subject to deposit, automobiles used by them abroad prior to the date of importation. A deposit equal to double the duty that would apply under paragraph 227 of the tariff (25 per cent ad valorem when imported from the United States and 31¼ per cent from other countries) is required, but is refunded when the car is reexported. Reexportation is required within 30 days unless the period is extended by the Treasury Department upon application. The owner is restrained from using the automobile so entered for purposes of gain.

PROPOSED LAW FOR SALE OF FERTILIZER.

Minister Jackson further reports that a bill was introduced in the Cuban Senate on April 18, and referred to committee, for regulating the manufacture and sale of fertilizers and placing on the free list chemicals used in their manufacture.

PROPOSED REDUCTION OF DUTY ON MINERAL OILS.

It is reported by Minister John B. Jackson that a bill was introduced in the Cuban Senate on April 26, 1910, providing for a

reduction of the duty on refined petroleum (tariff No. 7) from $3.50 to $1.40 per 100 kilos, with an added 10 per cent, and on benzine, gasoline, and vaseline (tariff No. 8) from $4.70 to $3.50 per 100 kilos. These rates refer exclusively to imports from the United States, and are 20 per cent lower than the rates imposed on products received from other countries.

FRANCE.

CERTIFICATES OF ORIGIN NECESSARY TO OBTAIN REDUCED RATES.

According to information furnished by the French consul-general at New York, certificates of origin are necessary under the customs regulations of France, in order to obtain the concessions granted by virtue of the recent tariff arrangement between that country and the United States in the case of certain articles produced or manufactured in this country. The formalities to be observed are thus explained by the French consul-general:

The certificates of origin, which must, according to the new requirements of the French regulations, accompany all invoices of American goods subject to the minimum tariff, should be drawn up in the form of "affidavits" duly sworn to by the shipper before a notary public and certified to by the county clerk.

These affidavits should mention the marks, dates, places of shipment and of destination, the detailed list of the goods, and the indication of their place of manufacture in this country.

The consular fees for the legalization of original certificates are $1.17, and for duplicates of same, $0.58.

The county clerk's certificate on these certificates of origin will not be required, providing the commission of the subscribing notary be presented at the consulate, where it will be recorded.

IMPORTS OF FEEDING BOTTLES WITH TUBES PROHIBITED.

By the French law of April 6, 1910, the sale, display, or importation of feeding bottles with tubes was forbidden under fine of 25 to 100 francs for the first offense and imprisonment for subsequent offenses. It is provided that the law shall go into effect three months after its promulgation.

GERMANY.

SPECIAL TRICHINOSIS CERTIFICATES NO LONGER REQUIRED.

The Department of State has been informed by the German ambassador at Washington that his Government, by regulation in effect April 15, 1910, has dispensed with the requirement that special certificates of inspection must accompany pork products imported into the German Empire from the United States. Hereafter the regular certificates of federal inspection under the United States meat inspection law of June 30, 1906, will be accepted as sufficient.

REDUCTION OF DUTIES ON ALCOHOLIC BEVERAGES.

The German finance law of July 15, 1909, which increased the excise and import duties, contained a proviso empowering the Bundesrat to reduce the new rates on spirits, sparkling wine, and beer down to a minimum fixed by the law. The Bundesrat has now exercised to the full extent the power accorded to it by reducing the import duties to the rates shown in the following statement, the

rates in force prior to the finance law of 1909 and those enacted by that law being given for comparison:

[Unless otherwise stated, rates are in marks per 100 kilos. 1 mark = 23.8 cents. 1 kilo = 2.2046 pounds.]

Tariff No.	Article.	Rate prior to finance law of 1909.	Under finance law of 1909.[a]	New rate.
	Spirits of all kinds, including spirits of wine; arrack, rum, cognac, blended spirits; mixtures of alcohol with ether, and solutions of ether in alcohol:			
178	In casks—			
	Liqueurs	240.00	350.00	300.00
	Other spirits	160.00	275.00	225.00
179	In other receptacles	240.00	350.00	300.00
181	Sparkling wine, in receptacles other than casks or tank cars	120.00	180.00	130.00
186	Beer of all kinds; malt extract in a thin liquid condition, with or without admixture of medicinal substances	7.20	9.65	.....
	In the case of beer in officially gauged casks, on which the gauge stamp, the year of gauging, and the capacity in liters are clearly and permanently shown, provided that not more than five years have elapsed since the gauging, with assessment for duty, according to the capacity of the casks	.....	.....	[b] 12.70
347	Ether of all kinds, simple and compound; also cognac oil (grape oil):			
	In casks	160.00	275.00	225.00
	In other receptacles	240.00	350.00	300.00
356	Perfumery and cosmetics (*e. g.*, hair dye, face washes, and other toilet preparations), containing ether or alcohol; head, mouth, or tooth washes containing ether or alcohol; perfumed or fragrant extracts (essences, tinctures), and waters containing ether or alcohol; toilet vinegar	300.00	400.00	350.00

[a] As to sparkling wine and beer, in effect August 1, 1909; as to other articles in this statement, in effect July 10, 1909.
[b] Marks per hectoliter (1 hectoliter = 26.417 gallons).

HONDURAS.

DUTIES ON WINES ADVANCED.

The import duties on wines in Honduras were fixed at the following rates by law of March 16, 1910, according to a notice in the Official Gazette of that country:

	Pesos per ½ kilo.
Ordinary wines:	
In bottles	0.15
In other receptacles	.30
Fine wines:	
In bottles	.08
In other receptacles	.15

1 peso (silver) = 37.8 cents; ½ kilo = 1.1023 pounds.

Wine of a higher alcoholic strength than 16 degrees Carthier, or its equivalent Gay-Lussac, shall be treated as spirituous liquors or alcohol, according to its grade.

JAPAN.

CHANGES IN THE TARIFF BILL.

According to a notice in the Mitteilungen des Handelsvertragsvereins of April 20, 1910, a number of changes, mostly increases in rates, have been made by the Lower House in the Japanese tariff bill (see notice in Monthly Consular and Trade Reports, April, 1910, pp.

188–189). The following are some of the articles affected, the rates being given in yen per 100 kin (yen=$0.498; kin=1.323 pounds):

Art printing paper, from 3.20 to 2.40; other printing paper, colored, from 1.60 to 1.20; other, from 2.20 to 2.00. Insulating electric wires, combined with rubber or gutta-percha, from 9.40 to 11.00; other insulating electric wires (not including submarine cables), from 4.70 to 5.50. Tires for railway locomotives, from 1.00 to 1.50. Automobile parts, from 20 per cent to 30 per cent ad valorem. Celluloid in lumps, bars, etc., from 37.50 to 42.50. Alizarin, aniline, and other coal-tar dyes, not specified, from 4.60 to 7.00. Iron wire, not coated with metal, from 0.95 and 0.80 to 1.15 and 1.00, respectively. Chlorate of potash, from free to 1.00. Condensed milk, from 11.10 to 5.50. Iron wire rods in coils, from 1.10 to 0.90.

ITALY.

CHANGE IN RATES ON CORK.

By the decree of April 17, the general rates of duty on cork (No. 174) in the Italian tariff have been changed as follows (in lire per quintal; lira=$0.193; quintal=100 kilos=220.46 pounds):

Articles.	Former rate.	New rate.
	Lire.	*Lire.*
a. Crude	Free.	5.00
b. Cork blanks for the manufacture of stoppers	(a)	30.00
Note.—Cork blanks with rounded corners shall be dutiable as manufactured cork.		
c. Manufactured	30.00	40.00
d. Bricks made from cork waste	5.00	5.00

[a] Classed for tariff purposes heretofore as crude cork.

The provision in the treaty with Switzerland under which cork soles for shoes, whether or not covered with cloth or bordered, are dutiable at 40 lire per quintal, has not been affected by the change.

NORWAY.

CUSTOMS CLASSIFICATION OF MACHINERY.

Consul-General Henry Bordewich, of Christiania, reports as follows concerning the admission of machinery into Norway:

The import duty on machines, motors, and apparatus for industrial, technical, and agricultural use, and also for use in navigation, except such as are specially named in other paragraphs, is 10 per cent ad valorem, under paragraph 393 of the tariff, and the same duty is applied on parts of such machines. There is a proviso that machines, motors, apparatus, and parts of such may be admitted free of duty when it is proved that such machines, motors, apparatus, and parts for the same are not being manufactured at any Norwegian plant.

It is frequently found difficult to decide whether articles similar to those imported from abroad are also manufactured in Norway. The foreign and the Norwegian article may be alike, but still there may be important differences in style, finish, and efficiency. For this reason it is often impossible to state the rate of duty on machinery until after a first shipment has passed the custom-house, and even then there may be subsequent adverse decisions, which the following case will illustrate. The European representative of an American house sold in 1908 for his firm two machines to a Norwegian manufacturer,

the price of which was about $22,000. The machines were admitted free of duty, but when some new parts were imported in 1909 the 10 per cent ad valorem duty was imposed.

PROPOSED CHANGES IN THE TARIFF.

The following changes, among others, have been proposed in the minimum tariff by the Norwegian Government to go into effect on July 1 (krone=100 öre=$0.268; kilo=2.2046 pounds):

The duty on boned meat imported in barrels is raised from 10 to 15 öre per kilo. The wording of tariff No. 438 is changed to include all kitchen utensils of stamped steel, instead of soup kettles alone. The following note is to be added to No. 730: Motor vehicles with places for more than six passengers, intended for use on specified lines, as well as motor vehicles which are to be placed at the service of the army in case of war, may be admitted by the Department of Customs, under certain regulations, at the rate of 5 per cent ad valorem. The present rate on all motor vehicles is 12 per cent ad valorem.

ROUMANIA.

SOME CONCESSIONS UNDER AUSTRO-HUNGARIAN TREATY IN FORCE.

A treaty providing for a number of tariff changes was concluded between Austria-Hungary and Roumania on April 23, 1909. Ratification on the part of Austria and Roumania has already taken place, but action by the Parliament of Hungary is still necessary to give effect to the treaty.

A few of the concessions by Roumania have voluntarily been made operative without awaiting the ratification by Hungary. These changes in the Roumanian tariff, which apply to imports from the United States and other countries enjoying the conventional tariff rates, are as follows, according to a statement in the Austrian Handelsmuseum (leu=19.3 cents, 100 kilos=220.46 pounds):

The duty on white glazed paper and all kinds of enamel paper is reduced from 45 to 28 lei per 100 kilos. Rubberized cloth, dutiable formerly under Nos. 101–104 at rates ranging from 210 to 380 lei per 100 kilos in the general tariff, and from 150 to 275 lei per 100 kilos in the conventional tariff, are now classed under No. 460, at 100 lei per 100 kilos when not containing silk, and at 300 lei per 100 kilos when containing silk. Garments of rubberized cloth are now dutiable under No. 461, at 250 lei per 100 kilos.

TRINIDAD.

TARIFF AMENDMENT.

Consul Franklin D. Hale states that the new customs tariff of Trinidad, adopted in November, 1909, has been amended in the following particulars:

Smoked hams and bacon are not to be classed as dry meats, subject to a duty of 50 cents per 100 pounds, but as smoked meats, dutiable at $1 for each 100 pounds.

The specific duty on naphtha and methyl alcohol is $3.60 per proof gallon, instead of per gallon as printed in the ordinance passed in November.

Staves and headings of oak are dutiable at 20 cents per pack (containing staves and headings for one puncheon or two hogsheads).

EXHIBITIONS AND CONVENTIONS.

INTERNATIONAL MEETINGS.

BELGIUM.

AMERICAN DELEGATES TO THE BRUSSELS EXHIBITION.

The International and Universal Exhibition for which the Belgian Government and people have been making active preparations for the past two or three years was opened at Brussels by the King of the Belgians on April 23. While the Government of the United States is making no exhibit at this international exposition, it is represented by an honorary commission of two persons. The honorary commissioner-general of the United States is Mr. John Ball Osborne, Chief of the Bureau of Trade Relations in the Department of State, and the honorary commissioner is Mr. U. Grant Smith, secretary of the American legation at Brussels. Mr. Osborne will sail from New York on May 21 for the purpose of officially visiting and inspecting the exposition.

Several American manufacturing companies have secured space at Brussels and are represented by creditable exhibits of their products. The American representation is particularly strong in typewriters, sewing machines, and tools. Following is a partial list of the exhibitors:

Remington Typewriter Co., New York.
Yost Typewriter Co., New York
Underwood Typewriter Co., New York.
Smith-Premier Typewriter Co., Syracuse, N. Y.
Singer Sewing Machine Co., New York.
Ingersoll-Rand Drill Co., Beaver Falls, Pa.
American Pulley Co., Philadelphia.
Consolidated Optical Co., New York.
Robert H. Foerderer Co., Philadelphia.
Brown & Sharpe Mfg. Co., Providence, R. I.
Pratt & Whitney, Hartford, Conn.
C. B. Cottrell & Sons Co., New York.
International Button-Hole Sewing Machine Co., Boston.
Miller, DuBrul & Peters Co., Cincinnati.
Burroughs Adding Machine Co., Detroit, Mich.
Barber Jewelry Mfg. Co., New York.
Graphic Arts Co., Philadelphia.
Monarch Typewriter Co.
Klaxon Signal Co.
American Cable Co.
Royal Solvent Co.
Clara Gold & Copper Co.
Stewart Hartshorn Co.

While it is perhaps too late for American manufacturers who are not represented to secure space, a valuable opportunity is offered to the business men of the United States who may desire to study the exhibits made at this international fair by their competitors of the various European nations. In fact, the exhibition possesses an educational value not surpassed by any of its predecessors, enabling American manufacturers to study the differences in methods and processes of the leading commercial countries.

FOREIGN GOVERNMENT EXHIBITS—BRITISH ACTIVITY.

The exposition grounds actually occupied by buildings and gardens cover an area of 220 acres, and the construction of the buildings has occupied nearly two years. Among the governments which applied for and secured space are the United Kingdom, France, Germany, Italy, Spain, Portugal, Holland, Uruguay, Denmark, Greece, Turkey, Persia, Mexico, Peru, Ecuador, Bolivia, China, Nicaragua, the Dominican Republic, Guatemala, Haiti, and Honduras. The five lead-

ing countries in the order of magnitude in extent of space are as follows: Belgium, 59,000 square meters (square meter=10¾ square feet); France and colonies, 39,000 square meters; Germany, 28,000 square meters; United Kingdom, 21,000 square meters; Italy, 11,000 square meters.

This is the first occasion when British participation has been under the organization and management of the new Exhibitions Branch of the Board of Trade, which corresponds to our Department of Commerce and Labor. In all previous international exhibitions where Great Britain has been officially represented, the business has been in charge of a royal commission appointed for the purpose, with a commissioner-general as the chief executive officer. The new Exhibitions Branch of the Board of Trade, which was established in 1906, began its work in connection with the Brussels Exposition about two years ago, and has been aided in an advisory capacity by a royal commission. The results of this new plan are highly satisfactory to the British exhibitors.

BELGIUM AS A COMMERCIAL CENTER.

The wonderful industrial and commercial activity of Belgium, in the light of its area and population, make it a most suitable theater for this international exhibition of the results of the world's material progress in the arts and sciences. Although possessing an area of but 11,373 square miles of territory, with a population of 7,168,816, the foreign trade of Belgium in the calendar year 1908 reached the colossal total of $1,125,939,000, giving this little country the sixth rank as a commercial power among the countries of the world. Of Belgium's total importations, amounting to $642,195,000, goods to the value of $65,902,000, or about 10 per cent, came from the United States. This fact demonstrates the importance of the Belgian markets to the manufacturers and exporters of the United States. Not only will the exposition afford them an opportunity to expand their trade with Belgium and neighboring countries, but it will bring them in contact with buyers from every country of commercial importance in the world. Expositions of this kind in Belgium are always attended by experts in all lines of business and during the term of the exposition many congresses and conferences of mercantile and scientific bodies are scheduled to take place at Brussels, which beautiful city is thereby made a clearing house for modern ideas and a great market place for the expansion of international commerce.

The Brussels Exhibition will remain open until a date in November next, to be named by the exposition authorities, probably November 15, 1910.

FIRE FIGHTERS' CONGRESS IN BRUSSELS.

Count Conrad de Buisseret, Belgian minister at Washington, transmits through the Department of State official documents relating to the International Congress of Fire Service, and preventive measures against fire, that will take place from July 27 to August 1, during the International Exhibition. The first four days of the meeting will be in Brussels and the last two days in Spa, not far from Brussels. Among the matters to be discussed are:

Automobile traction of material used in fire fighting. The warehousing of inflammable material in garages and salesrooms. The

progress achieved and to be achieved in the construction of pumps and fire engines. Other subjects relating to the prevention of fires and their extinction. There will also be an exhibition of the use of various fire-fighting apparatus. [Copies of the official announcement in French may be secured from the Bureau of Manufactures.]

ITALY.

STEADY PREPARATION FOR THE TURIN EXPOSITION.

Consul Albert H. Michelson, in reporting that the management of the International Exhibition of Industries and Labor to be held at Turin April–October, 1911, has extended the last date for receiving applications for exhibit space to July, 1910, gives some further particulars concerning this Italian world's fair:

Nearly all the buildings to be erected by the exhibition itself are already under way. Of these the largest are: Machinery hall, 215,000 square feet; palace of electricity, 150,000 square feet; hall of agriculture, 195,000 square feet; and the building in which the activities of Italians in foreign lands will be shown, 97,000 square feet. The buildings of foreign countries that are under way are: France, 236,800 square feet; Great Britain, 215,600 square feet; Germany, 156,000 square feet; Argentina, 96,800 square feet; Brazil, 96,800 square feet; Belgium, 54,850 square feet; Hungary, 26,900 square feet; and Latin American States (group), 21,500 square feet.

All the more important contracts for buildings and for work, to which the executive committee is necessarily a party, have been given out. The committee has not yet contracted for passenger elevators in various buildings, for a service of passenger motor launches on the river, and for a passenger tram line within the exhibition grounds. The length of the proposed tram and motor-launch lines is less than one mile. A favorable opportunity exists in connection with these needs to exhibit elevators, motor launches, and tram cars to especial advantage.

The two largest concessions already granted by the executive committee are for restaurant rights and for amusements. The latter was given to a speculator to whom all persons addressing the executive committee regarding amusements will be referred. The committee has still a number of minor concessions to accord. Of these may be mentioned, as of possible interest to Americans, one for automatic vending machines, one for taking photographs or moving pictures, one for a novel method of crossing the river (330 feet wide), and one for a moving sidewalk on a bridge or elsewhere.

OPPORTUNITY FOR AMERICAN MANUFACTURERS.

While the exhibition of 1911 offers a favorable opportunity for American manufacturers of all classes to make known their products in a country undergoing rapid industrial development, the opportunity to show the following articles is especially good: Machinery of all kinds, including especially machine tools; road building and maintenance machinery; agricultural machinery for small farms; rice machinery, and machinery for the textile, leather and paper industries; household appliances, including elevators; sanitary supplies, and apparatus for house heating by steam or hot water; office furniture and supplies, including combination locks; sporting goods,

including ice skates; small size electrical supplies of all sorts; and railway materials, especially those for narrow-gage.

In view of the coming exhibition it is probable that a number of outside international competitions will be held in Italy during 1911, under the auspices of various public bodies. The Province of Turin has already announced such a competition for road building and maintenance machines, while the Vercellese Farmers' Association of Vercelli, 47 miles from Turin, will hold two similar competitions for rice machinery during the coming harvest season. The executive committee of the exhibition states that it will endeavor actively to assist all outside competitions, and that every facility will be given exhibitors to take part in them.

The International Exposition Bureau, of 41 Union Square, New York, acting under the auspices of the Italian Chamber of Commerce of New York, officially represents the exhibition in the United States. The bureau is in a position to furnish complete information concerning the exhibition, to receive applications for admission, and to put American manufacturers in touch with persons in Turin who are ready to take full charge of exhibits from the time they arrive in Genoa until they are reshipped therefrom after the exhibition closes.

MILAN.

PERMANENT TECHNICAL EXHIBITION.

Consul Charles M. Caughy, of Milan, presents the following report as to progress in connection with the technical exposition in that city of Lombardy:

The building for the permanent technical exhibition in Milan is a somewhat imposing structure, now almost completed. It already contains several exhibits, and offers a good opportunity for American manufacturers to display their goods. Simply renting space, however, in which to exhibit wares will by no means suffice. Some active agent must be secured to explain the use of machines, the qualities of wares, etc., and supply visitors with advertising matter printed in Italian. Admission to the exhibition will be free.

Space in the hall on the ground floor or in the galleries rents for $19.30 per year for 39 inches square, and in the basement $4.82. The price of space on the ground floor is increased 20 per cent if it can be approached from two sides, 30 per cent if approachable from three sides, and 50 per cent if it is isolated or is on the main passage. Advertising space costs $19.30 a year for 39 inches square. Rentals are payable six months in advance, and 10 per cent of the total amount must accompany the application. This will be credited on the rental for the second six months. All correspondence should be addressed to Roberto Martinenghi, Gerente della Società Mostra Politecnica, Milan, Italy.

All exhibits must be accompanied by a detailed description in Italian and in duplicate. All expenses incurred in placing the exhibits must be borne by the exhibitor, or, if preferred, the association will attend to it, charging only the actual sum expended. Exhibits must be delivered free of all charges, and all insurance must be effected by the exhibitor.

In connection with the enterprise there has been opened a permanent exhibition of reviews, technical journals, and publications, all

necessary space for these being given free. Each publisher is entitled to membership without expense, the only obligation being that he must furnish his publication, the idea being that its display in the exhibition will secure him subscribers, a commission only to be paid to the association upon the business done. Three copies of periodicals must be sent of all numbers issued, in order that the exhibition may be able to carry out its programme of offering fresh matter for consultation by visitors. One of the extra copies will be used to replace that in use when the latter becomes worn and the other will be bound at the end of the year for the polytechnic library of the reading room. Two copies only of publications other than periodicals need be sent.

There are already displayed numerous technical publications from all parts of the world, and if American publishers follow the example of their foreign colleagues it will undoubtedly redound to their advantage. [A copy of the printed form of contract between the association and publishers is on file in the Bureau of Manufactures and may be seen upon application.]

INTERNATIONAL GYMNASTIC CONTEST.

ITALIAN GOVERNMENT INVITES AMERICAN PARTICIPATION AT MILAN.

Notification comes from Marchese Paolo di Montagliari, counselor of the Italian embassy and chargé d'affaires, that an International Gymnastic Contest will be held at Turin in May, 1911, on the occasion of the great Exposition of Industries and Labor in celebration of the fiftieth anniversary of the proclamation of the Kingdom of Italy. The contest will be under the auspices of the Italian National Gymnastic Federation. Marchese Montagliari adds:

"All the nations in the world have been invited to send representatives to this contest, as well as squads of their best youths to contend fraternally and demonstrate the importance attached by all civilized peoples to physical training.

"The committee for the international Exposition of Industries and Labor, to be held at Turin, in 1911, the president of which is the illustrious Senator Tommaso Villa, is particularly desirous that the United States, where physical culture is justly held in such high esteem, should be worthily represented in this contest."

RUSSIA.

A FLOATING EXHIBITION WILL VISIT ARGENTINA.

Ambassador W. W. Rockhill writes from St. Petersburg that a committee has been organized there under the leadership of Mr. Avdakoff, a member of the Council of Empire, whose object is the sending to Argentina, to participate in the Jubilee International Exposition of that Republic, of a Russian "Floating Exposition," such as was recently dispatched to Levantine ports. Mr. Rockhill comments:

The idea has had the active support of Mr. Garcia-Mansilla, the Argentine chargé d'affaires here, and, it is stated, of the Russian minister at Buenos Aires. One of the vessels of the Russian Volunteer Fleet will be fitted out for the purpose, and the committee has

called upon the chief business firms of the Empire to participate. The success of the like enterprise in the Levant has surpassed expectations, the sales of Russian produce aggregating, it is estimated, more than $1,500,000, and has brought about the establishment of a number of Russian commercial agencies in Constantinople. It is expected that this new enterprise will have as favorable results and lead to the development of Russian trade with the Argentine Republic.

AGRICULTURAL PRODUCTS AND MACHINERY—AMERICAN EXHIBITS DESIRED.

Mr. Theo. Kryshtofovich, Agricultural Commissioner of the Russian Government, who is at present in the United States, furnishes the Bureau of Manufactures the following information concerning expositions to be held in Russia this year and at which foreign tools and machines will be admitted:

(1) The West Siberian Exposition, to be held at Omsk, from August 20 to September 20. All correspondence to be sent to Mr. I. J. Feldman, second branch post-office, Box 7, St. Petersburg, Russia.

(2) The Agricultural, Industrial, and Fine Arts Exposition, to be held at Odessa, from May 15 to October 1. The divisions of fruits, grapes, and animals will be open August 15. All correspondence to be sent to the Imperial Agricultural Society, Odessa, Russia.

(3) The Russian Department of Agriculture is organizing an exposition and a competitive demonstration of evaporators—fruit and vegetable—of large, medium, and small sizes. The best machines will be acquired by the Department. All correspondence to Theo. Kryshtofovich, Government Agricultural Commissioner, 3939 Magnolia avenue, St. Louis, Mo. Conditions upon which manufacturers would send their evaporators should be stated. The exposition will be held at Uman, government of Kiev, next fall.

(4) The Russian Department of Agriculture, in cooperation with the Moscow Agricultural Society, is organizing a competitive demonstration of harvesting machinery. All efforts will be made to attract the utmost attention of Russian farmers to this event and to make the results of the demonstration the most widely known. All correspondence to Theo. Kryshtofovich, Russian Government Agricultural Commissioner, 3939 Magnolia avenue, St. Louis, Mo.

OMSK AGRICULTURAL EXPOSITION POSTPONED ONE YEAR.

American manufacturers will be interested to learn that the Omsk branch of the Moscow Agricultural Society has postponed holding the Agricultural, Timber, and Industrial Exhibition at Omsk, Siberia, to June 15 to August 1, 1911. In transmitting this notice, Consul-General John H. Snodgrass comments:

As the world is just beginning to learn of the agricultural and industrial conditions in that vast region of western Siberia, the proposed exposition has aroused great interest. Both the Imperial Government and commercial interests, however, agreed that it was best to postpone it until next year, to which end the Department of Agri-

culture has granted $18,000, while the Prime Minister and other government departments promis substantial aid.

The erection of buildings will be commenced during the summer of the current year. Persons desirous of putting up their own pavilions may also start this summer upon payment of half the cost of the site. Exhibition articles sent to Osmk on the supposition that the exposition would be held in 1910 will be kept free of charge by the committee. The application for exhibit space must be accompanied by 10 per cent of the charge therefor. By October 1, 1910, half the entire amount must be paid, the remaining 50 per cent not later than March 1, 1911.

BRITISH INDIA.

UNITED PROVINCES EXHIBITION AT ALLAHABAD.

As interest is being manifested in England in the United Provinces Agricultural and Industrial Exhibition to be held at Allahabad, India, Consul-General John L. Griffiths, of London, submits some additional information to that already published in Consular and Trade Reports:

The exposition will open in December and continue for three months. I believe it will be an excellent opportunity for American manufacturers to inaugurate or increase their trade in the Indian market. The exhibition will afford an unusual chance for obtaining a footing in one of the largest undeveloped markets in the world, and it is therefore entitled to the serious attention of enterprising manufacturers who are willing to incur initial expenditure, which in all probability will be very small in comparison with the business that might be secured.

The cotton and jute manufactures, already conducted on a large scale, offer scope for still further development. Sugar and tobacco are produced in large quantities, but both require the application of the latest scientific processes of cultivation and manufacture. Oil seeds might be crushed in India instead of being exported, while cotton seed, as yet imperfectly utilized, can be turned to good account. Hides and skins, now largely exported raw, might be more largely tanned or dressed in India, and consequently there is an excellent market for leather machinery. Millions of agriculturists and artisans use rude tools, which might be replaced by similar articles that are more durable and of better make. Improved oil presses and hand looms, paper-making machinery, flour machinery, wood-working machinery, tin-box-making machinery should find a very profitable market, while there are openings also for the manufacture of sewing machines, boots and shoes, saddlery and harness, clocks and watches, aniline and alizarine dyes, electrical appliances, glass and glassware, tea chests, starch, matches, lamps, candles, soap, hardware, and cutlery.

There is forwarded a preliminary prospectus of the exhibition, also circulars in reference to power and light charges, a form of manufacturers' application for space at the exhibition, etc. [which will be loaned to interested firms by the Bureau of Manufactures].

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STRAITS SETTLEMENTS.

THE AGRI-HORTICULTURAL SHOW AT SINGAPORE.

Consul-General James T. DuBois makes the following report from Singapore on fairs and conventions:

The Agri-Horticultural Show will take place this year in Singapore during August. This is the great event of the year and promises to be a pronounced success, as the planters all over the Federated Malay States are showing much interest in the fair. As Singapore is one of the most convenient centers for visitors from the Philippines, Java, Borneo, Siam, Sumatra, and Malaya, it is expected that the attendance will be a record breaker, owing to the prosperous times. As the Malay States and the island of Singapore are in a great measure under slight cultivation, and as the soil is rich and especially adapted to the growth of rubber, cocoanut, pineapple, rice, and many other valuable products, much will be done at the coming agricultural and horticultural show to encourage the development of the peninsula by demonstrating, as far as possible, the varied capacities of the climate and soil. The rubber section of the great show will be its most interesting feature, as the plantation rubber interests here are increasing by leaps and bounds.

MEDICAL CONGRESS AT MANILA SHOWS CHANGE IN MEDICAMENTS.

The Congress of the Far Eastern Society of Tropical Medicine, held in Manila March 5 to 10, has aroused much interest in the Malay States. Doctor Fraser, who has made some valuable experiments concerning the causes of beriberi, and Doctor Brooke, the health officer of Singapore, were delegates. There was an exhibition of medicaments specially adapted for use in tropical countries. The old-fashioned bulky medicines are almost entirely superseded by compact and portable tabloids.

JAPAN.

UNITED EXHIBITION FOR ISLAND OF KIUSHIU.

From Nagasaki, Consul Carl F. Deichman reports that the 13th United Exhibition of the eight Japanese prefectures in Kiushiu Island and Okinawa was opened at Fukuoka, March 11, 1910, and continues to May 9, 1910. The object is to promote the domestic trade and industries of the island of Kiushiu.

CANADA.

THE DOMINION EXHIBITION FOR THIS YEAR.

According to Vice-Consul Clarence Carrigan, of St. John, New Brunswick, unusual interest centers this year in the Dominion Exhibition, Canada's official industrial fair, concerning which he writes:

The Canadian government makes a yearly grant of $50,000 for prizes for this annual exposition and to defray expenses. For 1910 it has been decided to combine the Dominion fair with the provincial exhibition held every year in New Brunswick, and the joint exposition will be held at St. John, September 5 to 15. Half of the $50,000

will be expended in cash prizes for Canadian exhibitors only. Diplomas and gold medals will also be provided for international competition.

The transportation on all Canadian exhibits from points west of Montreal is to be paid out of the government fund, as far as Montreal. Special rates for the fair will be made by railroad and steamship lines. The Eastern Steamship Company will bring exhibits from the United States and return them at half price. The Pickford and Black line will carry an exhibit free of charge from and back to the West Indies. The Canadian Eastern Railway Association will make a passenger rate of 1 cent a mile for visitors to the fair.

These yearly expositions are an important feature in advancing Canada's agricultural and manufacturing interests. The live-stock exhibit for 1910 is expected to be especially fine. While the imported Ayrshires are still considered the finest cattle in Canada, and the Clydesdales, the English Shires, and the French Percherons are still the leading draft horses, every year shows a remarkable improvement in the native animals, and the native breeds to be exhibited next September are expected to equal in every way the imported animals. The draft horses bred in New Brunswick are now considered one of the best products of this province.

Manufacturers of canoes and motor boats should be interested in this exposition, as these afford the favorite summer amusements in and around St. John, and the market for these boats might be extended.

In view of recent publications on the lace industry in the United States, it may be of interest to manufacturers to know that the lace makers of Dublin have been making inquiries with the idea of sending extensive exhibits to the fair.

Amusement promoters will also find it worth while to write for particulars to the management of the fair, as arrangements have been made to make this a special feature. All inquiries should be addressed to Mr. Good, manager of the Dominion fair, Montreal Bank Building, St. John, New Brunswick.

VENEZUELA.

CENTENNIAL EVENTS NOW TAKING PLACE.

Chargé d'Affaires Sheldon Whitehouse, at Caracas, forwards a translated programme of the ceremonies celebrating the centennial of the independence of Venezuela. These began on April 19, 1910, and the various national events, as provided in a presidential decree, will continue until July 24, 1911. Parts of the decree read:

Art. 2. The National Pantheon will be reconstructed in a form worthy of its high purpose (initial ceremony, April 19, 1910; inauguration date, April 19, 1911).

Art. 3. There are created: (1) Military Academy of the Republic; (2) National Nautical School (both opening July 5, 1910); (3) Normal School (inauguration date, January 1, 1911); (4) Botanical Garden.

Art. 4. There will be constructed: (1) Steel dry dock in Puerto Cabello for the national fleet and the merchant marine; (2) building for National Library (inauguration date, January 1, 1911); (3) fireproof main building for Public Registry and National Archives (construction work beginning June 24, 1910; inauguration date, April 19, 1911); (4) building for surgical operations near the

Hospital Vargas (corner stone laid on April 19, 1910; inauguration date, January 1, 1911); (5) National Post-Office and Telegraph Building (construction work beginning June 24, 1910, and inauguration date April 19, 1911).

Art. 5. In conformity with the legislative resolution of August 4, 1909, the census of the nation is to be taken.

Article 24 provides for the following additional events:

October 28, 1910.—Opening of the Contest of Rural Industries; installation of the Athenæum at Caracas.

December 9, 1910.—Inaugural session of the Telegraphic Conference of the Latin-American Republics.

December 17, 1910.—Solemn funeral honors to the liberator, Simon Bolivar, in the Holy Metropolitana Church.

December 19, 1910.—Inauguration of the Avenue "19 of December;" opening of the School Furniture Exposition (destined to call attention to the articles most suitable to institutions of learning in the Republic).

April 19, 1911.—Installation in the capital of the Congress of Municipalities; opening of the Contest of Floriculture and Horticulture; opening of the Fine Arts Exposition.

June 24, 1911.—Installation of the First Venezuelan Medical Congress; opening of the Zoological Contest; inauguration of the "Carabobo" monument in the Independence Driveway; opening of the Fine Arts Contest.

July 1, 1911.—Installation of the First Bolivar Congress.

July 24, 1911.—Inauguration of the Bolivar Museum.

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BUREAU OF MANUFACTURES

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The publication of Monthly Consular and Trade Reports will be discontinued with this issue. Those who have been receiving the Monthly, and who are actively engaged in manufacturing and commercial industries, will be furnished with the daily edition upon application to the Bureau of Manufactures, giving business in which engaged.

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MONTHLY CONSULAR *and* TRADE REPORTS

Washington, D. C. JUNE, 1910 (PART II) No. 357

FOREIGN COMMERCE.

GENERAL TRADE REVIEWS.

THE PHILIPPINES.

SHARE OF THE LEADING COUNTRIES IN THE IMPORTS AND EXPORTS.

The Bureau of Insular Affairs has issued its report covering the foreign trade of the Philippines for the calendar year 1909, from which the following statistics have been compiled:

The import trade of the islands indicates a recovery from the depression of 1908, and that the exports reached a value in excess of any previous year. The imports and exports from and to the principal countries during the past two calendar years were as follows:

Country.	Imports from.		Exports to.	
	1908.	1909.	1908.	1909.
United States	$5,101,836	$6,445,331	$10,450,755	$14,726,513
United Kingdom	5,522,078	5,447,221	7,642,443	5,268,374
Australasia	2,256,685	2,483,836	509,030	478,185
China	2,102,900	2,612,219	1,504,833	1,505,116
Germany	1,811,404	1,816,272	493,449	910,916
Japan	1,328,172	1,621,003	402,529	273,376
Spain	1,261,444	1,415,911	1,857,013	2,093,511
France	800,511	1,055,225	4,320,761	4,735,914
All other countries	9,001,090	8,187,401	5,419,659	4,932,432
Total	29,186,120	31,084,419	32,601,072	34,924,337

The imports under the head of all other countries, in the foregoing statement, embrace rice from French India, $5,541,543 in 1908 and $4,709,646 in 1909. The United Kingdom is the only country showing a decreased trade with the Philippines in 1909, $74,857 in the imports, and $2,374,069 in the exports, while the trade of the islands with the United States shows an increase in imports of $1,343,495, and in exports of $4,275,758.

The foregoing statements indicate that the passage of the limited free-trade act between the United States and the islands, which went into effect on August 6, 1909, had a very perceptible effect on the imports from the United States, which were $859,999 more during the last five months of the year than during the first seven months thereof, while the imports from all other countries during the last five months were $2,749,438 less than during the first seven months. The exports of the islands to the United States were:

Articles.	1908.	1909.	Articles.	1908.	1909.
Hemp	$7,797,926	$10,434,041	All other articles	$447,395	$483,294
Sugar	1,966,166	2,649,604			
Cigars	18,376	727,396	Total	10,450,755	14,726,513
Copra	220,892	422,178			

The following statement shows the principal imports into the Philippines during the last five months of 1909, when the limited free-trade act was in effect, as compared with the last five months of 1908, and the total imports of the islands for the same periods:

Articles.	From the United States.		Total imports.	
	1908.	1909.	1908.	1909.
Books, maps, engravings, etc	$16,977	$31,622	$70,657	$90,907
Brass, and manufactures of	16,887	30,381	50,174	71,938
Breadstuffs: Wheat flour	241,089	340,366	433,628	559,669
Carriages and other vehicles	18,544	71,626	52,135	119,050
Clocks and watches	10,597	23,434	21,824	41,387
Cotton cloth	226,646	481,124	1,931,555	2,092,026
India rubber goods	25,597	39,363	49,005	70,665
Iron and steel goods:				
Bars and rods of steel	28,674	25,796	39,855	40,764
Rails for railways	4,376	70,705	26,628	80,509
Sheets and plates, iron	33,885	123,549	101,275	171,471
Sewing machines	13,253	16,666	32,308	25,752
Steam engines	9,144	26,014	29,691	73,104
Typewriters	23,230	40,206	23,612	40,887
Leather	33,913	81,835	44,454	95,799
Boots and shoes	97,045	112,527	118,500	140,156
Milk, condensed	42,911	57,672	161,549	192,953
Mineral oils:				
Illuminating	210,365	568,605	245,115	665,039
Lubricating	38,104	43,263	41,948	44,342
Paper of all kinds	52,067	68,403	179,171	228,626
Spirits and beer:				
Beer	21,436	36,912	31,213	48,983
Distilled spirits	24,376	41,772	104,424	126,650
Tobacco and manufactures	969	47,558	19,205	57,917
Wood manufactures	12,597	22,086	39,108	62,847
All other articles	799,217	1,251,180	7,950,992	9,456,049
Total	2,001,899	3,652,665	11,798,026	14,597,490

The iron and steel trade of the Philippines in 1909 shows a large increase in imports from the United States. The following statement shows the imports of this class of goods in 1909 and the chief countries from which they were imported:

Articles.	Total imports.	Imported from—		
		United States.	United Kingdom.	Germany.
Bar iron	$70,065	$10,528	$20,965	$12,560
Bar rods of steel	82,774	48,340	20,667	6,381
Rails	88,668	76,376	7,557	1,093
Sheets and plates:				
Iron	450,461	265,500	177,462	1,909
Steel	63,764	49,119	9,936	1,877
Builders' hardware and tools	153,245	70,671	39,965	29,867
Machinery:				
Sewing machines	101,070	37,865	1,043	61,964
Steam engines	113,759	41,575	60,332	966
Typewriters	65,399	64,609	681	9
All other machinery	385,304	198,809	80,587	23,769
Total machinery	665,532	342,858	142,643	86,708
Pipes and fittings	82,672	63,094	15,380	820
All other	738,895	268,707	137,641	239,786
Total iron and steel	2,396,076	1,195,193	572,216	381,001

To enable American cotton manufacturers to see where and how much they still fall behind in this trade, the following statement

showing the imports of cotton goods into the Philippines in 1909 is given:

Whence imported.	Cloth.	Knit goods.	Wearing apparel.	Yarn and thread.	All other articles.	Total trade.
United Kingdom	$2,606,312	$10,755	$15,944	$567,643	$243,160	$3,443,814
United States	716,147	9,513	29,932	4,958	33,169	793,719
Japan	542,125	29,026	5,428	139,739	22,313	738,631
Spain	90,040	393,033	601	18,501	9,229	511,404
Germany	42,728	242,046	17,758	24,069	99,252	425,843
Switzerland	247,036	4,832	2,851	154,406	4,173	413,298
China	207,402	2,502	857	61,991	6,222	278,974
British India	191,131	119	671	7,438	2,165	201,524
All other countries	153,523	9,983	11,757	63,241	48,565	287,069
Total	4,796,444	701,809	85,799	1,041,976	468,248	7,094,276

Other imports into the Philippines in 1909 in which American manufacturers should be interested were as follows:

Articles.	Total imports.	Imported from—		
		United States.	United Kingdom.	Germany.
Agricultural implements	$59,090	$19,756	$26,550	$11,164
Books, maps, engravings, etc	188,309	58,286	10,334	35,221
Brass, and manufactures of	175,495	64,473	34,949	43,423
Breadstuffs:				
Bread and biscuits	77,476	3,414	65,817	180
Wheat flour	1,282,171	698,263	3	261
Candles	85,733	1,255	1,799	261
Carriages and other vehicles	235,936	101,079	25,432	22,113
Celluloid, and manufactures of	46,941	3,736	2,672	20,970
Cement	307,939	437	12,942	18,064
Patent medicines	87,907	15,034	14,760	1,036
Chemicals, drugs, roots, etc	425,779	126,067	67,427	93,859
Clocks and watches	78,687	40,161	173	6,031
Copper, and manufactures of	90,354	17,287	52,072	8,105
Earthen and china ware	137,208	9,676	24,639	21,256
Fibers and manufactures of: Cordage, rope, and all other	372,534	20,526	13,410	2,519
Fish:				
Canned salmon	135,400	134,331	118	.....
Canned, other	201,180	2,254	4,480	1,969
Shellfish	70,853	7,780	6	.....
All other	46,210	10,414	1,045	844
Total fish	453,643	154,779	5,649	2,813
Fruits of all kinds	177,170	53,290	8,963	210
Games and toys	102,204	9,543	4,135	23,312
Glass and glassware	192,210	19,381	18,448	73,686
India rubber goods	151,756	75,847	47,189	12,772
Instruments, scientific, etc	138,981	101,704	3,743	20,629
Leather	195,699	161,067	8,241	3,168
Boots and shoes	294,319	282,087	1,078	2,327
All other manufactures	102,407	35,840	14,855	9,701
Total leather, and manufactures of	592,425	428,994	24,174	15,196
Meats, etc:				
Fresh beef	767,678	.....	.....	.....
Hams and bacon	205,174	27,674	33,917	.....
Lard	208,732	14,686	.....	69
Butter and cheese	188,087	762	7,347	3,871
Milk, condensed	435,291	114,900	210,107	1,443
Musical instruments	107,949	23,267	8,437	25,306
Oils, mineral: Illuminating	1,003,125	750,767	.....	.....
Paints and pigments	159,391	30,807	82,451	32,403
Paper of all kinds	526,452	90,972	17,711	36,109
Perfumery	137,119	19,968	6,189	7,738
Soaps	86,784	27,468	31,144	4,963
Spirits and beer:				
Beer	92,981	69,056	6,868	15,335
Spirits, distilled	304,532	87,089	97,849	944
Wines	187,129	4,879	3,150	3,542
Wood, boards, deals, etc	219,924	87,599	58	63,557
Wood manufactures	132,972	39,421	4,561	17,296

It will be seen by the foregoing statement that the United States has little, where it has any, share in some of the products imported in large quantities into the Philippines—products wherein the United States has a commanding share in the world's trade. Fresh beef is wholly supplied by Australasia, and lard and bacon by China, while cement is drawn from Hongkong. Wheat flour is pretty evenly divided between the United States and Australasia, viz, $698,263 and $583,171, respectively. These, however, are exceptional cases, for on looking over the table it will be seen that the United States holds a commanding place in the general trade.

EXPORTS FROM THE PHILIPPINES.

The following statement shows the exports from the Philippines in 1909 and the principal countries to which exported:

Articles.	Total exports.	Whither exported.				
		United States.	United Kingdom.	Germany.	France.	Spain.
Copra	$7,672,865	$422,178	$117,562	$763,064	$4,321,376	$898,256
Hats, bamboo	211,473	54,674	12,010	8,453	.....	.....
Hemp	16,896,000	10,434,041	4,932,059	97,649	75,328	11,812
Maguey	288,497	194,295	82,886	.....	.....	3,210
Sugar, raw or brown	5,608,287	2,649,604	.....	.....	.....	.....
Tobacco	1,536,344	1,669	.....	1,500	132,703	1,129,929
Cigars	1,754,529	737,396	84,599	17,836	24,471	44,753
All other articles	956,342	232,656	39,258	22,414	182,036	5,551
Total	34,924,337	14,726,513	5,268,374	910,916	4,735,914	2,093,511

Attention is drawn in the report to the seemingly decreased trade in hemp, the chief product of the islands, but this is wholly due to the decrease in the price of this fiber, viz, 165,299 tons were exported in 1909, against 102,439 tons in 1906, yet the value of the exports in 1909 were $2,716,632 less than the exports of 1906. This decrease in price, it is pointed out, has led to its increased use by American manufacturers, who now use it for purposes wherein inferior fibers were heretofore used.

CARRYING TRADE OF THE ISLANDS.

The following statement shows the value of the imports and exports of the Philippines carried in the vessels of the several countries:

Country.	Imports.		Exports.		Total trade.	
	Value of trade carried.	Value of trade of each country.	Value of trade carried.	Value of trade of each country.	Value of trade carried.	Value of trade of each country.
United States	$1,393,513	$6,445,331	$1,738,335	$14,726,513	$3,131,848	$21,171,844
United Kingdom	19,643,035	5,447,221	28,555,909	5,268,374	48,198,944	10,715,595
Germany	3,112,914	1,816,272	1,105,037	910,916	4,217,951	2,727,188
Spain	4,590,631	1,415,911	2,453,678	2,093,511	7,044,309	3,509,422
All other	2,344,326	15,959,684	1,071,378	11,925,023	3,415,704	27,884,707
Total	31,084,419	31,084,419	34,924,337	34,924,337	66,008,756	66,008,756

Philippine vessels being included with American vessels proper, it is not possible to give the exact value of the trade carried by the latter.

It will be seen by the foregoing statement that while American and British trade constitutes about 32 and 16 per cent respectively, of

the whole trade of the Philippines, British vessels carry about 73 per cent of trade against something less than 5 per cent carried by American and Philippine vessels. Of our total trade with the islands in 1909, viz, $21,171,844, fully $18,000,000 worth was carried in British vessels.

AUSTRALIA.

IMPORTS AND EXPORTS FROM AND TO GERMANY.

From returns issued by the German Government and republished in Australia, Consul-General John P. Bray, of Sydney, furnishes the following statistics covering German-Australian trade in 1908:

The imports into Germany from Australia amount to 296,358 tons, valued at $73,143,349, the principal imports being as follows: Wool, $31,475,790; gold and silver bullion, $28,183,869; ores, chiefly lead and zinc, $6,769,737; hides and skins, $1,547,424; tin, $1,442,205; copper and lead, $1,453,383, etc.

The principal exports from Germany to Australia amounted to $12,834,917, composed of the following articles: Metals and their manufactures, $4,479,192; spinning materials and their manufactures, $2,250,180; firearms, watches and clocks, toys, etc., $1,475,010; electric machinery, $1,248,534; chemicals, drugs, paints, and colors, $1,056,078; paper and manufactures thereof, $600,939, etc.

SOUTH AFRICA.

OPPORTUNITY FOR AMERICAN EXPORTERS TO INCREASE SALES.

Consul-General Julius G. Lay, of Cape Town, in reporting that the imports into South Africa during 1909 amounted to $137,895,737, an increase of $14,953,635 over 1908, says that American exporters should at once give South Africa more serious attention, and, when business prospects warrant it, send representatives to establish agencies. He adds:

That the United States has not maintained her proportional share of the increased trade of South Africa would indicate that American exporters are not taking advantage of the opportunities presented. Other countries have improved their position, notably the United Kingdom and Germany, while the United States has dropped back, despite the fact that the figures show substantial increases in imports the latter country can furnish.

Evidence of the present and prospective prosperity and increased purchasing power of South Africa is abundant. The output of gold in 1909 exceeded any previous year, and new mines are being rapidly developed in both the Transvaal and Rhodesia. A number of railway branch lines are in course of construction or contracted for. The past year was an excellent one for the farmer, and ostrich feathers, mohair, and wool were exported in large quantities; many food products formerly imported are now produced locally. The most convincing sign of prosperity, however, is the recent announcement that the Union Government railways have decided to purchase immediately engines and rolling stock to the value of $3,500,000 to enable them to handle the increased traffic.

LIBERIA.

IVORY NOW SHIPPED VIA NEIGHBORING COUNTRIES.

While 14,514 pounds of ivory, valued at $28,390, were passed through the Liberian customs for export in 1908, Chargé d'Affaires George W. Ellis, of Monrovia, says that this is only a fractional amount of the ivory yearly taken from the interior of Liberia. He writes:

The virgin forests of the Republic contain thousands of elephants, and many hundred thousand pounds of Liberian ivory are taken from the export trade of the country because of the peculiar aboriginal conditions of the hinterland. Small ivories are secured from a small species of elephant, which command 50 cents to $1 per pound, while from a large elephant is obtained ivories 60 to 100 or more pounds and worth $1.50 up to as high as $2.40 per pound.

Most of the ivory reaching Monrovia has been brought by interior chiefs on their visits to Liberian officials. At this writing a chief from the Belle country has just visited the President, bringing with him a bullock and four fine ivories from 3½ to nearly 5½ feet long. Interior traders secure some ivory by exchange of goods, by which they make a double profit.

The lack of good roads from the interior, and, in former times, intertribal wars which closed the native paths, has prevented Liberian ivory from reaching the Liberian coast, and generally disturbed business in the back country. Under these conditions great trade routes were developed, which diverted all Liberian trade to the adjoining British colony of Sierra Leone and the French possessions. Along with this went the trade in ivory. British interests built a railroad in Sierra Leone to within a few miles of Liberian territory. For these and other reasons, from the foundation of the Republic, Liberia has never enjoyed the full benefits of her great interior trade.

In recent years pacification of interior tribes has been successfully carried on, and in response to a demand from the outside Liberia has recently undertaken the important work of policing the frontiers. When the frontier forces have been properly trained and organized and all the proposed boundary stations have been occupied, the trade which in such large quantities has been allowed to be divided with the neighboring colonies will be directed toward the Liberian coast. A number of stations have already been occupied and others are to follow.

RUSSIA.

THE EFFECTS OF THE ABOLITION OF THE PORTO-FRANCO.

Consul John H. Grout furnishes the following information concerning the disarrangement of the export trade of Odessa in consequence of the abolition of the porto-franco at Vladivostok:

The exports from Odessa to Vladivostok in 1909 amounted to 9,828 tons, valued at $2,060,000, of which 5,976 tons were exported in January and February, while the porto-franco was still in operation (Vladivostok was closed as a free port on March 14, 1909), leaving only 3,852 tons for the other ten months of the year. In 1907 the exports from this port to Vladivostok amounted to 18,630 tons, valued at $6,180,000, three times the value of the exports in 1909. With the exception of sugar and butter, all exports show a serious

decline, especially such articles as cigarettes, flour, paper, all iron and steel ware, rubber goods, machinery, cotton textiles, soap, glass and wood ware, chemicals, etc. This clearly illustrates the extent to which that market was filled with all kinds of foreign manufactures on the eve of the abolition of the porto-franco.

The shipping from Odessa to Vladivostok practically came to a standstill in 1909, only vessels of the Volunteer Fleet, financed by the Government, continuing their voyages. During the present year, however, a revival is expected.

GERMANY.

CHEMICALS REGARDED AS MOST PROFITABLE OF OUTGOING PRODUCTS.

Consul-General Richard Guenther, of Frankfort, quotes official statistics to show the importance of Germany's exports of chemical products and the amounts taken by the United States:

The fact that the exports of coal-tar colors to the United States from the Frankfort district alone amounted to $4,665,234 in 1909 shows the importance of this German industry.

Germany's chemical industries exported in 1908 products to the value of $105,196,000, an increase of $12,614,000 over the exportation of the preceding year. The following table shows certain of the more important chemical exports of the fiscal year 1908–9, with the part thereof which went to the United States:

Exports of chemicals.	Total value.	To United States.
Alkaloids and salts and combinations thereof	$3,114,000	$753,746
Alizarin and other dyestuffs	4,991,336	956,522
Aniline and other tar colors	23,582,706	4,992,288
Aniline oil and salts	1,551,046	2,654,272
Anthrachinon, nitrobenzol, and other tar stuffs	2,549,218	205,682
Bronze colors	1,079,806	386,512
Camphor, menthol, and other ethereal oils	1,179,766	131,376
Carbon points and threads for electric lights	1,496,544	138,992
Indigo (synthetic)	9,199,890	1,125,978
Kainit, etc	3,994,354	1,779,526
Oil of anthracene, creosote, and coal tar	733,754	353,906
Potash (sheep sweat ashes)	1,063,614	497,182
Potassium chloride	6,016,640	3,471,230
Potassium cyanide	1,628,158	464,814
Potassium sulphate	1,916,614	1,019,354
Potassium, other salts of	2,531,130	1,139,782
Quinine, and combinations thereof	982,940	215,866
Zinc oxide	1,941,842	464,814

Germany's chemical exports form the most profitable of all the industrial lines comprised in her outgoing commerce. The annual report of one of the leading chambers of commerce, reviewing the conditions of German manufacturing industries in the year past, says:

According to common accounts from the German chemical industries quite a number of leading firms in that branch have either erected factories in foreign countries or connected themselves with resident business firms there in consequence of the customs laws of those countries (Russia, Austria-Hungary, France, United States), which made the exportation of their products thereto rather difficult. It goes without saying that the reasons which actuated these firms to establish branch factories abroad were serious, for the splitting up of manufacturing entails disadvantages, and the management of foreign enterprises is very expensive.

Besides the reasons stated in the report of the chamber of commerce there is also the consideration that as a consequence of the

establishing of branch factories in foreign countries these countries will ere long become formidable competitors to the chemical manufacturers of Germany, not only in those same countries, but in outside markets as well.

PURCHASES FROM CHEMNITZ.

STEADY INCREASE IN EXPORTS TO THE UNITED STATES.

Consul Thomas H. Norton reports as follows concerning Chemnitz-American trade:

Exports from Chemnitz, Germany, to the United States for the first quarter of 1910 show a steady expansion since the recent tariff law went into effect. This is noteworthy, as cotton hosiery, the main article of export, was one of the few articles on which there was a marked increase in the duty. Most of this hosiery was sold at $1 per dozen by Saxon manufacturers, the duty on which was 65 cents under the old law; it is now 85 cents. The quantity of cotton hosiery exported during the nine months ending March 31, 1910, was as follows, in dozens: September quarter, 1,156,482; December quarter, 1,107,444; March quarter, 1,255,032.

The following table shows the quantity and declared value of exports from Chemnitz to the United States during the quarters ending March 31, 1909 and 1910:

Article.	1909.		1910.	
	Dozens.	Value.	Dozens.	Value.
Gloves:				
Cotton	286,516	$278,424	358,889	$475,453
Silk	5,258	12,738	2,893	6,612
Woolen	1,063	1,390	2,884	3,391
Kid and leather	20,654	100,860	25,110	120,768
Hosiery:				
Cotton	1,469,484	1,906,701	1,255,032	1,666,193
Silk	8,815	20,363	19,125	48,598
Woolen	2,459	3,986	1,146	2,063
Underwear:				
Cotton	8,330	15,599	7,180	23,135
Silk	704	6,706	507	4,016
Woolen	396	2,114	689	3,287
Upholstery goods	[a] 12,558	8,465	[a] 20,804	11,763
Woolen dress goods	[a] 441,212	102,150	[a] 433,435	100,659
Trimmings	.....	135,156	.....	145,674
Buttons	.....	18,765	.....	16,137
Paper goods	.....	16,189	.....	15,682
Toys and dolls	.....	14,811	.....	21,841
Machinery	.....	66,227	.....	201,925
Machine needles	.....	16,984	.....	22,867
All other articles	.....	338,176	.....	364,774
Total	.....	3,069,754	.....	3,254,838

[a] Yards.

About 13 per cent of the foregoing exports are manufactured outside the Chemnitz district, but are ordered from the Chemnitz offices of American firms, over 140 of which now have permanent purchasing offices in this district. All the kid and leather gloves and linens, as well as over half of the toys certified for export at Chemnitz, are manufactured outside of the district.

The most noticeable feature for the last quarter is the marked increase in machinery shipments, due to continued purchase on a large scale of knitting machinery, which began last September. The exports include 92 large cotton machines for knitting full-fashioned hosiery, 4 Paget and Jacquard machines, 191 seamless knitters,

and 333 looping and sewing machines for knit goods. The shipment of large cotton machines, at the rate of seven per week, is an indication of the rapid enlargement of American hosiery plants.

The present activity in the American demand for cotton fabric gloves is noteworthy, the trade now being nearly equal to that before the panic of 1907. This branch has been the slowest to recover from the effects of the depression. The sales of silk hosiery are increasing, while those of silk gloves show a corresponding retrograde movement. There is every indication that the general upward movement will be maintained throughout 1910.

PLAUEN-AMERICAN TRADE.

EXPORTS TO THE UNITED STATES ARE STILL INCREASING.

Consul Carl Bailey Hurst furnishes the following statistics covering the German exports from Plauen to the United States during the three months ended March 31, 1910, as compared with the same months in 1909:

The total exports amounted to $1,628,208, an increase of $188,405. Machine-made laces and embroidered articles composed $1,035,419 of the total trade, an increase of $46,777. The most surprising increase under this head occurred in artificial silk articles, which rose from $21,691, in 1909, to $120,807, in 1910, as it was thought here that the new tariff would check these exports. The other articles under this head (cotton laces and embroidered articles being the chief, amounting to $886,702), show small decreases. Machinery, chiefly embroidery looms, $66,858, an increase of $46,279; glace leather and other gloves, $258,179, an increase of $58,114. Woolen dress goods show a marked decline, from $147,955 in 1909 to $93,663 in 1910, yet the woolen weaving mills are prospering, if larger dividends are evidence of prosperity, which shows that they must have increased sales elsewhere to make up for lost trade in the United States.

AUSTRIA.

DECLARED EXPORTS AT AMERICAN CONSULATES TO THE UNITED STATES.

The declared value of exports from the several consular districts of Austria, exclusive of Hungary, to the United States during the calendar years 1907, 1908, and 1909 is given by Consul-General Charles Denby, of Vienna, as follows:

District.	1907.	1908.	1909.
Carlsbad	$1,663,805	$1,179,848	$1,369,917
Prague	3,214,850	3,590,177	3,103,163
Reichenberg	3,330,081	2,201,580	3,764,621
Trieste	1,030,765	1,027,198	1,258,683
Vienna	7,194,626	5,060,090	7,446,547
Total	16,434,127	13,058,893	16,942,961

The year 1909 shows the largest export figures of any year in the history of the Vienna consulate-general. Gains were made in every consular district except Prague. The $2,400,000 gain from the Vienna district over 1908 was chiefly in artificial silk, beans, bentwood furniture, glassware, linen, silk and cotton goods, skins, and toys. The increase from 4,824 to 6,367 in the number of invoices

certified at this consulate-general is a good indication of generally increased business activity. The $1,500,000 increase from the Reichenberg district was principally in beads, buttons, cotton cloth, jewelry, and millinery, ornaments, precious stones, and their imitations.

The declared export returns are a sufficient index of the high class of the American demand for Austrian goods and of the possibilities of the American market for Austrian manufacturers.

NORWAY.

INDIRECT TRADE MAKES ACCURATE ESTIMATES ALMOST IMPOSSIBLE.

Consul P. Emerson Taylor, of Stavanger, shows in the following report the difficulty of estimating the amount of American products entering that Norwegian port, which receives the greater part thereof from other European ports:

The incompleteness of the following list of American products received at Stavanger in 1909 is due to the fact that nearly all such products are received here from Rotterdam, Antwerp, Hamburg, and Hull, and hence an accurate estimate is very difficult to arrive at. The list herewith given is not even official, being only an estimate kindly furnished by custom-house officials, and is necessarily, under the circumstances, much too low. For instance, American machinery is estimated at $29,000, which is nothing like the value of American machinery received here during the year. The quantities of unmistakably American products received at Stavanger during the year were as follows, in pounds: Cotton, 40,000; cotton-seed oil, 343,900; other oils, 60,100; coffee, 43,300; feedstuffs, 5,875,000; lard, 521,400; meat, 14,229; oatmeal, 32,300; oleomargarine, 1,432,860; sirup, 701,600; timothy seed, 12,480; tobacco, 82,800; wheat, 33,060,000 (551,000 bushels); wire, 235,400.

ENGLAND.

INCREASING EXPORTS TO UNITED STATES AND ALL OTHER COUNTRIES.

Consul Albert Halstead furnishes the following information concerning English industrial and trade conditions in the Birmingham district:

The exports from Birmingham, including the agencies of Redditch and Kidderminster, to the United States for the quarter ending March 31 amounted to $1,113,499, an increase of $209,459 and $402,404, respectively, over the first quarters of 1909 and 1908. The exports from Birmingham alone were $831,068 and from the two agencies $182,331. The increase noted, 25 and 50 per cent over 1909 and 1908, the largest increase for any first quarter in many years, has been influenced by improved business conditions in the United States and by the tariff reduction on some of Birmingham's important exports.

The general business of the Birmingham district has improved materially since the beginning of the year, the exports to all parts of the world showing a steady increase, the demand for labor growing materially, and bank clearings showing an increase, 1910 thus opening with most encouraging prospects for the manufacturers and business people of the district.

CANADA.

THE UNITED STATES CONTINUES TO INCREASE ITS LEAD IN SALES.

According to an advance publication of the Department of Trade and Commerce at Ottawa, the imports and exports of the Dominion during the years ended March 31, 1909 and 1910, were as follows:

Year.	Imports.			Exports.		
	Dutiable.	Free.	Total.	Home products.	Foreign products.	Total.
1909	$175,014,160	$123,191,797	$298,205,957	$242,603,586	$18,908,573	$261,512,159
1910	227,214,990	148,568,670	375,783,660	279,211,537	22,146,992	301,358,529
Increase	52,200,830	25,376,873	77,577,703	36,607,951	3,238,419	39,846,370

The imports and exports of the Dominion from and to the United States and the United Kingdom for the year ended March 31, 1910, as compared with the preceding year were as follows: United States—Imports, $223,501,809, an increase of $43,475,259; exports, $113,150,778, an increase of $20,546,421. United Kingdom—Imports, $95,300,944, an increase of $24,618,000; exports, $149,634,107, an increase of $15,888,732.

The following statement shows the trade of Canada with the several countries for the year ended March 31, 1910:

Country.	Imports.			Exports.		
	Dutiable.	Free.	Total.	Home produce.	Foreign produce.	Total.
British Empire:						
United Kingdom	$71,773,585	$23,527,359	$95,300,944	$139,482,945	$10,151,162	$149,634,107
Africa	987,207	54,358	1,041,565	2,349,209	5,769	2,354,978
Australia	202,587	995,795	1,198,382	4,411,613	25,863	4,437,476
Guiana	2,977,971	2,267	2,980,238	584,631	3,416	588,049
West Indies	4,018,782	1,758,916	5,777,698	3,534,761	63,537	3,598,298
Newfoundland	37,160	1,430,459	1,467,619	3,770,948	200,004	3,970,952
Other dependencies	1,139,182	2,843,433	3,982,615	767,831	12,897	780,228
Total	81,136,474	30,612,587	111,749,061	154,901,488	10,462,648	165,364,086
United States	118,834,173	104,667,636	223,501,809	104,199,675	8,951,103	113,150,778
Belgium	2,110,284	1,129,604	3,239,888	1,835,066	1,059,936	2,895,002
France	8,518,671	1,590,873	10,109,544	2,601,097	39,551	2,640,648
Germany	5,493,492	2,441,738	7,935,230	2,065,768	435,423	2,501,191
Italy	492,727	400,671	893,398	346,049	483,524	829,573
Japan	965,903	1,215,335	2,181,238	659,053	1,404	660,457
All other countries	9,663,266	6,510,226	16,173,492	12,608,391	713,403	13,316,794
Grand total	227,214,990	148,568,670	375,783,660	279,211,537	22,146,992	301,358,529

IMPORTS OF LEADING MANUFACTURES.

In a list of about 40 of the leading manufactures imported into Canada during the year under review, the whole amounting to over $200,000,000, the share of the United States amounted to $113,000,000, against $70,876,000 for the United Kingdom. Included in this list were cotton, linen, jute, and wool manufactures from the United Kingdom to the value of $36,388,468, against $4,658,621 from the United States. Omitting these latter from the total imports of principal manufactures, leaves the imports from the United Kingdom only $34,487,418, against about $108,000,000 from the United States.

That our cotton and wool manufacturers may be enabled to appreciate the consumption of these products in Canada, and the small figure

they cut in the trade, the following statement showing the imports into the Dominion for the fiscal year ended March 31, 1910, is given:

Articles.	Imported from—			Total.
	United States.	United Kingdom.	All other countries.	
COTTON MANUFACTURES.				
Piece goods:				
Bleached and unbleached	$296,206	$2,408,337	$53,119	$2,757,662
Printed, dyed, or colored	757,249	5,047,161	99,374	5,903,784
Total piece goods	1,053,455	7,455,498	152,493	8,661,446
Lace, white and cream colored	35,961	799,803	304,640	1,140,404
Socks and stockings	40,701	271,803	357,077	669,581
Thread	245,865	804,753	21,650	1,072,268
All other cotton goods	2,099,826	3,636,359	303,580	6,039,765
Total cotton goods	3,475,808	12,968,216	1,139,440	17,583,464
WOOL MANUFACTURES.				
Carpets	33,144	1,628,992	87,272	1,749,408
Clothing, ready-made, etc	659,333	698,333	240,963	1,598,629
Cloths, coatings, tweeds, etc	15,874	6,442,559	290,581	6,749,014
Fabrics wholly or in part of wool, worsted, etc	60,659	6,316,951	1,635,298	8,012,908
Knitted goods	63,258	568,686	63,786	695,730
Socks and stockings	11,408	1,248,013	97,530	1,356,951
Yarn	2,950	1,619,264	49,951	1,671,765
All other wool manufactures	87,839	966,570	144,407	1,198,816
Total wool manufactures	934,465	19,489,368	2,609,388	23,033,221

IMPORTS OF IRON AND STEEL MANUFACTURES.

The leading classes of industrial products imported into Canada are grouped under the head of iron and steel, and manufactures thereof, wherein the United States holds a very leading place, as will be seen by the following statement:

Articles.	Imported from—			Total.
	United States.	United Kingdom.	All other countries.	
Agricultural implements	2,603,510	43,961	2,882	2,650,353
Bar iron or steel, in coils, bundles, etc	1,530,432	385,819	35,919	1,952,170
Chains	275,656	104,733	4,087	384,476
Cream separators	487,261	87,035	10,852	585,148
Cutlery	151,813	437,485	194,627	783,925
Engines, locomotives	313,542	32,548	.....	346,090
Engines, other, and boilers	1,458,472	201,069	21,175	1,680,716
Fittings, iron or steel, for pipes	341,011	16,719	52	357,782
Hardware, builders', etc	442,343	54,396	7,200	503,939
Iron or steel ingots, blooms, billets, etc	480,582	85,330	112,612	678,524
Iron or steel rolled round wire rods, etc	652,335	96,137	645	749,117
Iron or steel sheets, flat, galvanized, etc	1,935,274	2,418,193	34,504	4,387,971
Locomotive tires	58,930	6,818	271,345	337,093
Machinery and machines (not otherwise specified)	13,300,388	1,081,999	308,034	14,690,421
Rolled iron or steel angles, tees, beams, etc	2,321,166	694,047	87,093	3,102,306
Rolled iron or steel plates, not less than 30 inches wide and not less than ¼ inch thick	985,366	266,501	13,771	1,265,638
Skelp iron or steel, sheared or rolled in grooves	1,535,571	11,009	.....	1,546,580
Steel rails	1,103,655	201,586	3,132	1,308,373
Tools and implements	782,183	66,499	43,138	891,820
Tubing	1,604,008	263,396	116,696	1,984,100
Wire	2,482,300	812,160	194,754	3,489,214
Other iron and steel, and manufactures of	11,487,324	3,761,129	431,358	15,679,811
Total iron and steel, and manufactures of	46,333,122	11,128,669	1,893,876	59,355,667

The exports from Canada to the United Kingdom are mostly confined to horned cattle, grain, provisions (cheese mainly), and lumber in the rough (deals), which composed $109,531,305 of the total exports thereto ($149,634,107). Of the $63,837,817 worth of wheat exported during the year under consideration, $11,228,436 worth was foreign wheat (American) exported through the Dominion, $9,271,036 worth of which went to the United Kingdom.

The large export of flour, $14,860,363, bears evidence to the successful efforts of the Canadian millers for the enlargement of this important industry. The flour was exported to the following countries: United Kingdom, $8,872,698; Newfoundland, $1,727,591; British Africa, $1,273,897; British West Indies, $930,339; United States, $572,092, etc.

The United States is the chief market for Canadian minerals, metals, and manufactures thereof, $32,044,654 worth in a total export of $43,834,664, and for lumber in its various forms, planks and boards, laths, shingles, and wood pulp, no less than $31,778,622 worth in a total export of $47,598,571, finding a market in the United States. Unlike the exports to the United Kingdom, which are confined to a few groups of crude products, the United States is a large, all-around consumer of the greater portion of the chief industrial output of the Dominion.

UNITED STATES.

INCREASING EXPORTS OF MANUFACTURES MAKE UP FOODSTUFF SHORTAGES.

Foreign trade statistics of the United States for the ten months ended April 30, 1910, show a falling off in total exports to those countries forming the principal markets for foodstuffs, but an increase to those countries forming markets for manufactures. In Canada the sale of American goods was 33 per cent greater than for the corresponding ten months ended April 30, 1909. The foreign trade with the leading countries for these comparative periods was as follows:

Country.	Imports from.		Exports to.	
	1909.	1910.	1909.	1910.
United Kingdom	$168,393,305	$233,414,000	$444,737,898	$436,609,329
Belgium	21,470,496	31,234,879	39,624,441	35,874,748
France	88,469,809	117,856,794	96,821,475	105,679,246
Germany	116,454,931	144,584,436	207,898,928	218,941,604
Italy	40,398,533	40,610,882	50,680,782	46,421,581
Netherlands	21,229,894	26,740,205	82,303,690	72,545,900
Russia	9,935,540	15,518,796	15,632,057	15,968,767
British India	34,107,852	36,795,446	7,141,199	6,721,878
China	24,085,005	24,513,669	15,348,862	11,913,170
Japan	58,606,681	56,565,458	23,033,027	18,122,592
Australia	12,120,520	13,186,183	19,982,879	21,903,194
Argentina	17,466,902	27,879,698	28,032,358	33,619,657
Brazil	89,951,871	102,118,463	14,309,831	18,490,334
Mexico	39,122,789	47,388,833	41,042,261	47,685,679
Cuba	68,286,619	92,336,856	36,552,076	44,194,360
Canada	64,119,018	77,873,739	129,023,947	174,470,003
All others	196,974,795	226,646,036	170,203,020	176,808,128
Total	1,071,194,560	1,318,264,373	1,422,268,737	1,486,000,170

The following table shows the quantity, where possible, and, in other cases, the value of the principal articles exported to Canada,

including Newfoundland and Labrador, in the ten months ending with April, 1910, compared with the corresponding months of the preceding year:

Article.	1909.	1910.	Article.	1909.	1910.
Agricultural implements	$1,569,831	$2,400,772	Wire.....lbs..	46,960,769	77,693,298
Horses.....number..	12,915	19,787	Builders' hardware.....	$1,566,104	$2,018,493
Corn.....bush..	4,183,098	5,400,322	Electrical machinery...	$485,971	$825,105
Wheat.....do...	724,671	2,022,676	Metal-working machinery.....	$186,521	$272,253
Wheat flour.....bbls..	110,400	106,543	Sewing machines.....	$272,989	$382,479
Automobiles.....	$1,123,273	$3,057,456	Typewriters.....	$266,831	$371,049
Clocks and watches.....	$608,523	$714,264	Pipes and fittings..lbs..	38,621,160	66,721,936
Coal.....tons..	7,299,676	8,136,833	Upper and sole leather..	$344,631	$477,381
Copper, pigs and ingots, pounds.....	4,141,194	5,709,649	Boots and shoes..pairs..	509,176	611,099
Cotton cloths.....yds..	6,099,826	8,177,814	Beef, salted or pickled, pounds.....	5,836,595	5,746,252
Cotton clothing and apparel.....	$839,350	$1,454,148	Mineral oils.....galls..	42,519,570	41,086,359
Twine.....	$1,187,372	$1,168,463	Cotton-seed oil.....lbs..	8,847,142	13,228,567
Fruits and nuts.....	$3,636,375	$3,942,845	Books, maps, etc.....	$2,266,897	$2,792,735
Furs and fur skins.....	$1,938,780	$2,622,388	Tobacco, unmanufactured.....lbs..	11,848,920	11,495,842
Scientific instruments...	$1,383,784	$2,353,947	Boards, deals, and joists, M feet.....	95,311	136,157
Railway rails.....tons..	19,309	22,423	Furniture.....	$546,067	$679,233
Structural iron and steel, tons.....	31,935	49,573			

MEXICO.

SUBSTANTIAL INCREASE IN IMPORTS AND EXPORTS.

Consul-General Arnold Shanklin, of Mexico, forwards official Mexican statistics showing imports and exports for the six months ending December 31, 1909, in comparison with those for the same period of the preceding year. The following tables gives these by classes of products, conversion of the Mexican currency having been made on the basis of $0.50 for each peso. The imports were as follows:

Imports by classes.	First six months of fiscal year—		Increase (+) or decrease (−).
	1908-9.	1909-10.	
Live animals and animal products	$3,253,602	$3,591,119	+ $337,517
Vegetable products	5,458,256	8,886,608	+3,428,352
Mineral products	10,471,256	12,326,886	+1,855,630
Textiles, and manufactures of	3,775,195	4,751,350	+ 976,155
Chemical and pharmaceutical products	2,233,536	2,576,077	+ 342,541
Beverages, spirituous, fermented, and natural	1,314,022	1,476,192	+ 162,170
Paper, and manufactures of	1,116,234	1,336,127	+ 219,893
Machines and apparatus	5,500,075	4,620,636	− 879,439
Vehicles	899,497	1,189,691	+ 290,194
Arms and explosives	612,819	578,904	− 33,915
Miscellaneous	1,731,380	1,996,686	+ 265,306
Total imports for six months	36,365,872	43,330,276	+6,964,404

Exports for the same period were as follows:

Exports by classes.	First six months of fiscal year.		Increase (+) or decrease (−).
	1908-9.	1909-10.	
Mineral products	$35,162,552	$39,187,256	+$4,024,704
Vegetable products	14,650,620	16,528,764	+ 1,878,144
Animal products	3,237,261	4,455,257	+ 1,217,996
Manufactures	616,595	522,145	− 94,450
Miscellaneous	851,938	436,237	− 415,701
Total exports for six months	54,518,966	61,129,659	+ 6,610,693

The imports into and exports from Mexico, by classes, as given in the Mexican customs, during the seven months ending January 31, 1909 and 1910, were as follows:

Classes.	1909.	1910.	Classes.	1909.	1910.
IMPORTS.			IMPORTS—continued.		
Animal materials	$3,773,646	$4,264,016	All other articles	$2,025,520	$2,340,659
Vegetable materials	6,905,646	10,313,580			
Mineral products	12,355,029	15,168,694	Total	43,014,897	51,540,991
Textiles and manufactures thereof	4,382,370	5,468,442	EXPORTS.		
Chemical and pharmaceutical products	2,638,581	3,144,662	Mineral products	42,648,862	43,939,952
Beverages and liquors of all sorts	1,600,820	1,758,209	Vegetable products	17,258,511	19,409,307
			Animal products	3,916,934	5,326,543
Paper and paper manufactures	1,313,645	1,589,458	Manufactures	633,542	631,645
Machinery and apparatus	6,174,301	5,400,753	All other exports	902,959	552,631
Vehicles	1,103,972	1,422,713			
Arms and explosives	741,367	719,905	Total	65,410,808	69,860,078

The imports and exports by principal countries during the seven months were as follows:

Countries.	Imports.		Exports.	
	1909.	1910.	1909.	1910.
United States	$23,814,006	$29,771,134	$48,958,445	$53,639,473
United Kingdom	5,901,485	6,267,180	7,000,568	7,002,857
Germany	4,900,614	5,549,674	3,828,090	2,587,844
France	3,564,365	4,677,027	2,773,350	2,984,058
Spain	1,542,914	1,451,260	264,048	344,926
Belgium	577,289	673,048	1,672,671	2,243,542
Italy	571,838	532,020	5,573	22,318
All other	2,142,356	2,619,648	908,063	1,035,060
Total	43,014,897	51,540,991	65,410,808	69,860,078

CUBA.

CONTINUED STRONG LEADERSHIP IN COMMERCE WITH UNITED STATES.

The following summarization of the trade (in American currency) of Cuba for the calendar year 1909 is furnished by Consul-General James L. Rodgers, of Habana:

The value of the total exports of Cuba in the calendar year 1909 was $124,711,069. The United States took $109,407,613 worth, or 87.73 per cent of the whole (an increase of 4.44 per cent over 1908); other American countries, $2,660,971, or 2.13 per cent; Great Britain, $5,013,676, or 4 per cent; Germany, $4,053,960, or 3.25 per cent; Spain, $865,519, or about seven-tenths of 1 per cent; France, $1,216,275, or nearly 1 per cent, and Europe and all other countries, $1,493,055, or about 1⅛ per cent.

Of this value sugar and its products represented $80,734,070, and tobacco and its manufactures $31,985,194, thus accounting for 90 per cent of the whole. The item of mineral products (this including iron ore) was third with $3,492,626, fruits and vegetables fourth with $3,034,247, animal products (principally hides, etc.) fifth with $1,593,445, and forest products (principally timber) sixth with $1,591,252.

The values of declared exports to the United States through American consulates in Cuba do not agree with these figures, the total amount being $103,461,656, but the difference can be explained for various reasons, most of it arising through sugar valuations of which the United States took over 99 per cent of the exportation.

The United States took leaf tobacco to the value of $15,800,126, and cigars to the value of $4,125,584, thus accounting for $19,925,712 out of a total of $31,985,194, which was divided as follows: Leaf tobacco, $19,084,704, and cigars, etc., $12,900,490.

Of the values of declared exports to the United States the Habana district accounted for $55,437,408, Cienfuegos for $28,288,924, and Santiago for $19,735,324.

Of the sugar value, according to consular figures, $32,179,908, was credited to the Habana district, $27,430,492 to Cienfuegos, and $14,824,463 to Santiago. The first named district includes the ports of Habana, Matanzas, and Cardenas; the second, Cienfuegos, Sagua la Grande, Caibarien, and Nuevitas; the third, Santiago, Antilla, Manzanillo, Guantanamo, and Baracoa. The port of Cienfuegos led in sugar and molasses shipments with $13,546,712; Habana was second with $12,300,164, Cardenas third with $10,774,570, and Matanzas fourth with $10,187,295; the other ports averaged about $4,150,000.

Nearly all the tobacco, cigars, and cigarettes were shipped from the port of Habana.

The fruits (nearly all pineapples) and vegetables were shipped almost exclusively from Habana, the timber and woods from Santiago de Cuba and Oriente ports, and the bananas were also a product of the east.

The port of Habana alone accounted for one-third of all the values of exports from Cuba. Habana is credited with $34,532,732, Matanzas with $10,199,462, and Cardenas with $10,999,008.

The imports of Cuba in 1909, according to official figures, were valued at $91,447,581, not including money. The United States furnished $46,339,198 or 50.68 per cent. Great Britain was second in the import trade with $12,260,414, or 13.4 per cent; Spain was third with $8,019,893, or 8.77 per cent; American countries (other than United States) fourth with $7,127,028, or 7.68 per cent; Germany fifth with $6,587,538, or 7.2 per cent; France sixth with $5,303,618, or 5.7 per cent; European countries, other than named, seventh with $3,892,876, or 4.25 per cent, and all other countries contributed $1,917,016, or 2.09 per cent.

The United States gained nearly 2 per cent on the import trade, the loss being divided among other countries, not one having made a gain.

ARGENTINA.

LARGE INCREASE IN IMPORTS FROM AND EXPORTS TO THE UNITED STATES.

Minister C. H. Sherrill, of Buenos Aires, furnishes the following statistics covering the foreign commerce of Argentina for the last two years, and the growing volume with the United States:

The imports and exports of Argentina during 1909, as compared with 1908, were as follows: Imports, $292,159,631, an increase of $28,740,941; exports, $383,443,259, an increase of $30,249,105 (all

figures in United States gold). The value of the imports and exports with the five leading countries was as follows in 1908 and 1909:

Countries.	Imports from.		Exports to.	
	1908.	1909.	1908.	1909.
United States	$34,351,108	$41,561,420	$12,567,424	$25,154,452
United Kingdom	90,108,397	95,726,330	75,583,357	77,918,488
Germany	36,522,428	42,996,338	33,536,639	39,918,488
France	25,550,324	29,732,913	27,901,845	37,631,143
Italy	24,041,284	25,917,590	7,631,082	12,193,463
All other countries	52,850,149	56,225,040	195,974,807	190,627,225
Total	263,418,690	292,159,631	353,195,154	383,443,259

Even making allowance for the large increase in the trade of 1909, it is almost certain that the trade of Argentina with the United States will continue to increase. This can be deduced from the fact that already over $3,000,000 worth of linseed more than was shipped in 1909 has been contracted for, while the exports of hides and other articles are also increasing. It is not therefore too much to assume that Argentine-American trade within a year will be double its volume in 1908, but in this computation the ships building in the United States for this Republic, $23,000,000 in value, is taken into account.

The American Chamber of Commerce, established here by me, is doing excellent work in the way of affording a clearing house of business information for American firms, and many opportunities to fill orders are being availed of through its instrumentalities which would formerly have escaped notice. I have had the gratification of notifying several American firms here of business opportunities which would otherwise have never come to their attention.

ARGENTINE TRADE RELATIONS.

THE ACTIVE PROMOTION OF FRANCO-ARGENTINE TRADE.

In noting the formation of an Argentine Chamber of Commerce in Paris, Consul-General R. M. Bartleman, of Buenos Aires, says:

The establishment of the chamber is largely due to the activity of the Argentine consul-general in Paris. A French Chamber of Commerce has existed in Buenos Aires for thirty years. The commercial relations between France and Argentina have always been close. There are at least 100,000 Frenchmen in Argentina, and a large amount of French capital is invested in the country in almost every variety of enterprise [probably $13,000,000—B. of M.]. The following interests are controlled by French capitalists: Compagnie Française des Chemins de Fer de Santa Fé, and its affiliated company, the Chemins de Fer de la Province de Buenos Aires, two large railway companies, are almost wholly controlled by French capital; the sugar interests in Tucuman are largely French; the Banque Hypothécaire and the Banco Francés del Rio de la Plata are French, and the new port works at Rosario are being built by a French firm. The French hospital in Buenos Aires was founded in 1832, and there are several flourishing French clubs and societies in that and in other Argentine cities.

Paris is a favorable place of residence for many wealthy Argentinians; and French text-books and methods of education, assisted by

several long-established French religious schools, have a permanent place in the field of learning. The only paper in Europe exclusively for Argentinians was started in Paris in 1909. The French daily in Buenos Aires, which has considerable circulation, was founded in 1865, and is the second oldest foreign newspaper in the River Plate Valley.

On the list of countries trading with Argentina, France stands fourth, the imports therefrom in 1909 amounting to $29,723,092, an increase over the preceding year of $4,172,867, and the exports thereto, $37,631,143, an increase over the preceding year of $8,717,413.

The competition of France in many branches of Argentine commerce is, therefore, a serious factor, as there are several long-established French companies which control important lines of business, and are active in others. Exporters from France are assisted by a good steamship service, which has done much to promote Franco-Argentine trade.

A UNION TO INCREASE TRADE BETWEEN BOTH COUNTRIES.

The following information concerning the formation in Berlin of the German-Argentine Central Union, to promote trade and intercourse between both countries, is also furnished by Consul-General Bartleman:

The creation of such an institution is not to be wondered at when the unusual growth of Germany's trade with Argentina is considered, or when the steady, continuous prosperity of the many large German firms in Buenos Aires and elsewhere in this Republic is contemplated. The following statement shows how German-Argentine trade has increased in a decade: Imports from Germany in 1908, $108,522,950, an increase of $74.457,450 as compared with 1898; exports to Germany in 1908, $35,768,700, an increase of $25,551,050, as compared with 1898.

There are many evidences of German influence and enterprise in Argentina apart from the purely commercial world. German officers have played a prominent part in the instruction of the Argentine army. Certain German methods of instruction are used in the Argentine universities and schools, which buy most of their scientific instruments from Germany—the new telescope at the La Plata Observatory, for instance. German solidarity is everywhere apparent; the 30,000 Germans in the Republic have clubs and societies wherever there is a German community, the new German Club in Buenos Aires being said to be the finest foreign club in South America. There are many German churches and schools and a large German hospital in Buenos Aires. Modern German commercial education is bearing rich fruit here. The Germans are close and eager students of every branch of Argentine commerce and industry, and there are few lines wherein their influence is not felt to a greater or less degree. Their unceasing activity is an ever present factor that must be reckoned with in the growing markets of the River Plate. Their means of transportation from their factories to their purchasers are very good; large German lines make frequent sailings from Hamburg and other German ports to Buenos Aires. These lines are steadily

and soundly growing, and form an additional asset in their quiet, progressive campaign of commerce.

THE INCREASE IN IMPORTS AND EXPORTS DURING THE LAST DECADE.

Consul-General Bartleman also transmits a summarized press translation of President Alcorta's message to the Argentine Congress on May 5. The following extract reviews the foreign trade (Argentine gold dollar=$0.965 American currency):

The imports, which in 1900 totaled $113,435,067 gold, amounted in 1909 to $302,756,095 gold, an increase of 166 per cent. The exports showed an almost parallel increase, since in 1900 they totaled $154,600,412 gold, and in 1909 have risen to $397,350,528, or an increase of 156 per cent.

With the increase of the population building has developed in unprecedented proportions, as is proved by the imports of materials and the consumption of imported articles paid for by the wages and profits of those so employed.

The imports of animals for the improvement of stock, which is one of our chief sources of wealth, have increased largely; those of the materials of industrial labor continue on a gigantic scale; the imports of seed, before insignificant, to-day absorb millions of dollars annually, and the imports of agricultural implements, which cheapen and extend production, multiplying the power of the agriculturist, have assumed proportions which in one year exceed those of former decades.

Similarly, the import statistics evidence superiority in consumption by the working classes, revealing a condition of well-being not shared by the wealthier classes alone.

All these figures, indications of solid and satisfactory economic progress, are fully confirmed by the commercial balance in favor of the country for the decade 1900–1909, a balance amounting to $676,792,110 gold; and also by the amounts corresponding to metallic commerce during these 10 years, which show imports of $241,805,627 gold, and exports of only $18,481,604 gold.

BRAZIL.

DECLARED EXPORTS FROM RIO TO UNITED STATES SHOW INCREASES.

A review of the declared exports from Rio de Janeiro to the United States in the three months ended March 31 is furnished by Vice-Consul-General J. J. Slechta as follows:

Coffee, 486,403 bags of 132 pounds	$5,136,603
Manganese ore, 17,250 gross tons	156,959
Monazite sand	18,974
Plants and seeds	1,093
Returned American goods	554
Semiprecious stones	167
Total	5,314,350

The totals for the same quarters in 1908 and 1909 were $4,574,429 and $5,145,815, respectively. The difference is in both cases due almost altogether to increased prices for coffee shipped from this district to the United States, as may be seen from the fact that in 1908, 553,957 bags were invoiced for $4,572,568 and in 1909, 530,978 bags were invoiced at $5,015,903. The total value of exports to the United States in the first quarter of 1910 is only about $300,000 less than in the preceding quarter, which is the heavy coffee-shipping season for Rio de Janeiro. The shipments of manganese ore have been heavier than in any previous quarter during the two years preceding and there is an item new to the

export record of the district in the large shipment of monazite sand.

The continued heavy exports of coffee have been rather surprising, as the coffee crop of Rio and Minas has been regarded as of unusually small proportions. The total entries at Rio up to March 25 were 3,097,798 bags, and at Santos the total reached 10,863,196 bags, making a total of 13,960,994 for Rio and Santos. Including the three remaining months in the current coffee season, there is little doubt that entries for the crop year will total well above 14,500,000, a crop considerably above the average.

TRADE EXTENSION.

MUSICAL INSTRUMENT TRADE.

ENGLAND.

MARKET CONDITIONS FOR PIANOS IN LIVERPOOL.

An inquiry has been received by Consul Horace Lee Washington from an American manufacturing company desirous of securing a responsible dealer in Liverpool to represent its lines in that part of England. The consul discusses the piano trade situation there:

A descriptive catalogue with six instruments pictured and described accompanied the inquiry. This catalogue was shown to eight of the leading piano dealers in Liverpool, and the question of an agency discussed with each. In no case was a favorable reply received, and while the reasons varied, yet in all cases reference was made to one deterrent point—the dimensions of the frame, which is greater than the stock sizes which are popular in this market, and this criticism was made by several, not only with regard to the products offered by my inquirer, but to the other makes of American pianos which have been tendered to this market.

Between 70 and 80 per cent of the sales of pianos in this district are German manufactures, which are offered at a less price than the American articles with which this trade is familiar. My inquirer did not furnish a price list with his descriptive catalogue.

The dimensions of the English and the German makes found on this market average in height 4 feet 2 inches, width 5 feet, while of the six sizes presented in the descriptive catalogue referred to four were above 4 feet 8 inches, one was 4 feet 8 inches, and one 4 feet 6 inches in height. The width of each of the six was 5 feet 4 inches.

One American piano which commands some sale in this district is the Steinway, but it is expressly manufactured on the English lines indicated, partly in the United States and partly in Hamburg, Germany. Additional reasons that were presented for declining to accept an agency were the trade depression of the past months, which made extension of business unadvisable, and the agencies already held by the firms interviewed.

The conservative tone of this market has so frequently been commented upon that repetition is hardly required. If the market is accustomed to a piano of a certain size it will not even consider an instrument which varies in the wrong direction from their point of view, and that is by being larger instead of perhaps a shade smaller than the dimensions of the instrument ordinarily seen here. Under

these circumstances, unless the manufacturer in the United States is prepared to undersell this market and make a vigorous campaign, there appears to be no reasonable expectation of business at this time.

SPAIN.

DOMESTIC MANUFACTURERS SUPPLY DEMAND FOR PIANOS.

Consul Edward J. Norton, of Malaga, writes that the demand for pianos in that consular district, comprising the Provinces of Malaga, Granada, and Almeria, is supplied almost entirely by domestic factories. He submits the following information regarding the trade:

The manufacturers in Spain produce a fairly good line of cheap pianos, prices in Malaga ranging from $60 upward. The high-priced instruments are well finished and appear to give excellent satisfaction, but the demand for both kinds is very light. The industry is protected by a high tariff, and during the fiscal years 1907–8 and 1908–9 only 11 pianos were imported into this district. The duty on upright or grand pianos is 325 pesetas ($58.50) each. There are three or four pianolas or automatic pianos in the clubs, cafes, and theaters of Malaga, but these instruments have not yet won favor for home use, and there is little opportunity for their sale. The duty on them is 250 pesetas ($45) per 100 kilos (220 pounds).

The total weight of musical instruments of wood and metal, unclassified, imported into Malaga during 1909 is given as 825 pounds. Guitars, mandolins, and violins pay a duty of 87 cents per kilo (2.2 pounds), while band or metal instruments pay $1.16 per kilo, net weight.

The trade in gramophones and talking machines is increasing slowly, but steadily. These instruments are very popular, and a number of American machines are now being carried about the city and played in the plazas and in front of cafes, taking the place of the old-time street piano. The favorite instrument of this class is a widely advertised American gramophone distributed through a selling agency in Barcelona. During the past three years 165 talking machines were imported into Malaga, according to custom-house returns. The total number of machines sold here, however, was much greater than shown in the customs statement, as the bulk of the trade is in the hands of direct importers in Barcelona who ship to their agents here.

[Names of leading dealers in musical instruments in Malaga are on file in the Bureau of Manufactures.]

SWITZERLAND.

MARKET FOR SALE OF MEDIUM-PRICED HARMONIUMS.

Consul George Heimrod, of Berne, writes that there are several manufacturers of pianos in Switzerland, one firm in Berne having an output of about 500 annually. Of the import trade he says:

The value of pianos imported in 1909 was $280,000, and of harmoniums $43,000. Details for 1909 are not obtainable, but in 1908 the imports of pianos from Germany were valued at $240,000, France

$29,000, Italy $1,600, and the United States $500; of harmoniums Germany furnished $34,000, United Kingdom $1,800, United States $1,600, France $1,000, and Canada $800. The Swiss customs duty on pianos is 40 francs ($7.72) per 100 kilos (220 pounds), on harmoniums 25 francs ($4.83) per 100 kilos, and on pianola apparatus 8 francs ($1.54) per 100 kilos, collected on gross weight, cases and packing included in dutiable value.

With the exception of one make represented by an agency, American pianos are not on sale in this district, and there appears no possibility of building up a satisfactory trade. A local dealer states that an American concern attempted to do business by opening a store in eastern Switzerland, but the experiment was a failure. Automatic piano players and attachments are on sale by music dealers. One American firm has an agency in Berlin that covers Europe through subagencies. While there does not appear to be a favorable market for pianos, medium-priced harmoniums can be sold. [List of dealers in pianos and other musical instruments in the Berne district are on file in the Bureau of Manufactures.]

CANADA.

AMERICAN AIRS POPULAR—IMPORTS INTO DOMINION.

Consul Frank Deedmeyer, of Charlottetown, says that Canada's music is distinctively American. A new American popular air is at once in favor there. This leads him to discuss its effect on the purchase of instruments:

Last year printed music and music for mechanical players was imported to the value of $154,073, of which the United States supplied $125,088. In 1909 the Dominion imported musical instruments at a cost of $845,831, while in 1900 these imports were only $390,407. Of the total imports in the last fiscal year those from the United States amounted to $705,033, Germany coming next with $76,544.

A table follows, showing the kinds of instruments imported and their values:

Articles.	Value.	Articles.	Value.
Brass-band instruments and bagpipes.	$41,332	Mechanical pianos and organs	$52,562
Cabinet organs	13,696	Pianofortes	199,061
Parts of organs	17,192	Parts of pianos	149,190
Pipe organs	3,271	Keys, strings, wires, and other parts	48,427
Phonographs, gramophones, graphophones, and finished parts thereof, including cylinders and records	224,129	All other musical instruments	96,971
		Total	845,831

In the Province of Prince Edward Island, as in all other portions of the Dominion, the introduction of pianos, organs, phonographs, and graphophones is becoming quite general. Mechanical instruments are in great favor. In the homes of the farmers the organ is being displaced by the piano. The high-class American piano finds a ready sale.

[Lists of dealers in musical instruments in Canada and other parts of the world are on file for consultation in the Bureau of Manufactures.]

SAMPLE CASES IN GERMANY.

OPPORTUNITY FOR THE SALE OF THE AMERICAN PRODUCT.

Consul Ralph C. Busser, of Erfurt, comparing German and American sample cases, shows, in the following report, how the American manufacturers can build up a trade in that Empire:

One of the distinguishing features of the American traveling salesmen of to-day in most lines of goods is the lightness and convenience of their equipment or outfit, as compared with the sample cases carried by salesmen in other countries where American ideas in this connection have not been introduced.

Both Germany and the United States have made great progress in the manufacture of leather goods. The United States, however, by reason of specialization in all sorts of articles and appliances that facilitate the transaction of business, has naturally taken the lead in the manufacture of the most serviceable types of commercial trunks, bags, and 'scopes. So many inventions and new ideas have been utilized in making sample cases, and so quickly have the improvements been taken advantage of by business houses and salesmen in the United States, that it seems strange the American manufacturers have not heretofore made systematic efforts to introduce them abroad, especially as other business appliances, such as filing cabinets, roller-top desks, typewriters, cash registers, etc., have had such large sales in Germany and other industrial countries.

GERMAN SAMPLE CASES.

Sample cases in Germany are made largely on special order from factories and business houses having salesmen on the road. Considerably less business is done in ready-made receptacles, as they are not so ingeniously constructed as those of improved American make, and therefore not so adaptable to the requirements of different wholesale houses, even though intended for carrying the same kind of articles. The ready-made sample cases will probably average 20 or 25 per cent less in price than the made-to-order articles, while the sales are not usually accompanied by guaranty, as in the case of those made to order.

A small German sample trunk, without drawers, having one or two locks and measuring about 1½ feet long, 1⅛ feet wide, and 1⅓ feet high, costs about $5.50, and one measuring 2⅝ feet long, 2 feet wide, and 2½ feet high, about $13. Various other sizes are made, the prices being more or less according to dimensions. The foregoing is one of the cheap types of sample trunks sold by a well-known manufacturer, and may be briefly described as follows: The body is made of well-seasoned Canadian poplar or other wood having the qualities of lightness, toughness, and adaptability to cabinet work; the inside lining consists of a texture of tough linen; the exterior covering is sailcloth, double varnished and lacquered; the frame is fastened together by iron plates and bands and brass riveted and beaded on the outside; the case is fitted with brass locks, forged and riveted hinges, and hand-sewed leather catches or straps. A trunk of this type, measuring 2½ feet long, 1¾ feet wide, and 2¼ feet high, with 6 drawers, costs

about $18.50; a case of finer material and finish, of the same dimensions but containing 8 drawers, about $23.

Sample trunks are manufactured in Germany for the following articles: Rugs and carpet samples, linoleum, wall papers, shoes and other leather goods, woolen and cotton goods, cloths and fancy goods, canes and umbrellas, hats, ornamental feathers and millinery goods, porcelain, china and glass ware, typewriters, watches, jewelry and trinkets, teas and coffees, food products, etc.

German hand sample cases are made for books and maps, drawings, small pictures and photographs, jewelry and trinkets, confectionery, bonbons, wines, liquors, cakes, crackers, biscuits, crayons, colors and dyes, oils, medicines, etc. Judging by the relatively small number of articles which are customarily exhibited in bags, cases, and scopes carried by hand, it is evident that German manufacturers have given less attention to improvement and adaptability to diverse needs in this respect than in the production of sample trunks. Consideration of the fact that hand sample cases are not carried by German salesmen to the same extent as by their American brethren suggests a favorable opportunity to American manufacturers to take advantage of this condition and establish a steady trade in Germany and other foreign countries for their products.

GERMAN METHOD OF MARKETING—AMERICAN SAMPLE CASES.

For the purpose of ascertaining the German method of marketing sample cases, personal inquiries were made among the principal dealers in leather goods and travelers' supplies in Erfurt. No sample cases were found in stock; a few dealers were prepared to sell them from catalogue; and others, who manufacture in connection with their retail business, were prepared to execute orders for certain kinds of sample cases only, involving delay and greater expense than if they were made in large quantities from patterns designed to suit the ordinary requirements of various lines of goods. The manufacturers making a specialty of sample cases conduct most of their business direct with the wholesale firms having salesmen on the road.

Owing to the excellence of materials generally used, strong, light construction, fine workmanship, attractive appearance, smooth mechanism and ease of operation, adaptability to diverse requirements, ingenious interior arrangement, such as extension trays, etc., and the convenience of carrying and handling as compared with the regulation square-top case or scope, the American hand sample case, especially, should find a ready market in Germany, where the business men have already learned to appreciate the superiority of other labor-saving and business-facilitating appliances, whose manufacture is so highly specialized in the United States.

In marketing sample cases in Germany it would be well for the manufacturers at home to study the foreign-trade methods and experiences of American exporters of office appliances and other specialty goods which appeal particularly to business men.

It is suggested that the American manufacturers carry on their campaign with those sample cases which are patented specialties and

which are at the same time unique or manifestly superior to the German-made receptacles designed for the same service, respectively. It is assumed, of course, that the new ideas in sample cases are protected by foreign as well as United States patents.

Advertising in the trade journals which reach the firms selling by sample will materially aid in acquainting the trade with the merit of the sample cases. [A list of European trade journals is on file in the Bureau of Manufactures.] In view, however, of the difficulty of learning by correspondence the conditions and customs of the German trade, and of meeting the strong domestic competition, it is advisable that the highest type of representatives and salesmen be selected to visit the large establishments which employ salesmen carrying samples. In this way can be ascertained their needs, peculiar requirements, method of ordering, and the custom as to deliveries, payments, and credit. Without this preliminary canvass it is hardly likely that the American manufacturers will have in hand all the data and information necessary for intelligent cultivation and successful handling of the trade.

OPENING FOR AMERICAN HAND SAMPLE CASES.

While railroad fares are cheaper in Germany than in the United States, there is a substantial charge made for trunks carried on the same train taken by the passenger. This charge is regulated by the number of trunks, weight, and distance transported. For example, a trunk weighing 110 pounds will cost 50 cents for a distance of 124 miles. Therefore the expense of having salesmen on the road can be materially reduced by substituting hand sample cases for trunks wherever possible, as the former can be carried into the passenger coupé or compartment, like any other piece of hand luggage, thus saving the heavy baggage-car charges. The more general adherence to sample trunks in Germany provides a favorable opportunity for American manufacturers to carry on a campaign of education here that should result in large orders for their specialties in hand-carried sample cases and scopes.

REPRESENTATION AT EXHIBITIONS.

The American manufacturers should take advantage of the great markets and commercial expositions held in Germany every year to exhibit their goods. The most famous and diversified of these is the Messe or fair in Leipzig before Easter and again in the fall. At this celebrated commercial fair or mart, dating from the Middle Ages, regularly gather the wholesale sellers and buyers from various parts of Germany and other European countries. The latest and most attractive products of manufacture are exhibited, information is exchanged, samples are displayed, and orders and contracts are secured to cover business requirements for months to come.

Catalogues and circulars for use in this country should, of course, be printed in German, and correspondence with German firms, as a general rule, in the same language. Weights should be expressed in kilos, dimensions in centimeters, and prices in marks and pfennigs.

MARKETS FOR FIREARMS.

ASIATIC TURKEY.

A GOOD MARKET FOR REVOLVERS AND SHOTGUNS.

Consul Jesse B. Jackson, of Aleppo, reports as follows concerning the use of firearms in that Turkish district and the conditions governing their sale:

There has been considerable trade in revolvers in this community during the past year, and while, as a rule, this trade has been confined to the cheap grades, there has recently been a very appreciable trade in the higher class of arms. Revolvers with barrels exceeding 6 inches in length are prohibited from import. There are certain districts, Lebanon, for instance, where the carrying of such weapons is strictly forbidden.

The majority of all classes carry revolvers of one kind or another, the higher public official, banker, and business man, the middle-class employees, and particularly the carriage and Arabic, Turkish, and Kurdish camel drivers and muleteers who travel the country districts.

WEAPONS IN USE.

The better and middle classes usually carry some small revolvers of American, French, or English manufacture, mostly automatic pistols, caliber .22 to .38, the cartridges with steel or copper cased bullets. Such revolvers retail at $1.25 to $12, and the automatic pistols at $8 to $12. The carriage drivers, camel drivers, and muleteers prefer large, heavy revolvers of .44 or .45 caliber; the larger the weapon and the caliber the more it is in demand. The weapons of this character at present enjoying the bulk of the trade are nickel plated, manufactured in Spain, Belgium, and Germany, and retail at $2 to $4. The police of the cities in this consular district are recruited from the gendarmery or military, and are not supplied with revolvers or pistols, carrying only rifles or sabers.

As only a small proportion of the population read and write, advertising in local newspapers would reach not to exceed 15 or 20 per cent of the people of the city. Great numbers living in the rural districts never see a newspaper.

SHOTGUN MARKET.

All ordinary single-barreled or double-barreled shotguns, either muzzle or breech loading, are permitted to be imported and sold in the markets. The import of magazine or repeating shotguns and all rifles is prohibited, and if smuggled into the country and afterwards discovered they are immediately confiscated and the offenders prosecuted. Heretofore single-barreled shotguns have not been in favor among the common people throughout the country and nobody other than foreigners would buy them. But recently an energetic dealer of Aleppo has been able to dispose of several hundred guns of the single-barreled, breech-loading variety and is vigorously pushing the business, with the probability that hereafter there will be a growing trade in such weapons.

The arm that is most appreciated is the double-barreled gun, but the muzzle-loading gun, because of the cheapness and economy in use,

is most in demand, though many are able to and will purchase breech-loading guns of low and medium prices. The gages mostly used are the 28, 24, 20, 18, and 16, the preference running to the smaller caliber. The barrels should be thick, as it is the custom to load with a solid ball as well as with small shot. But very few 12-gage guns are sold.

There is no trap or target shooting practiced in this vicinity, but there is considerable hunting of birds and other small game with shotguns.

The duty on firearms at present is 11 per cent, but this may soon be increased to 15 per cent.

INTRODUCING AMERICAN GOODS.

The best way for American manufacturers to effectually introduce such goods as revolvers and shotguns into this market is to send competent traveling salesmen here, thoroughly equipped with samples, to exhibit and demonstrate them to the trade, together with the guidance of an energetic commission merchant of this city. Such an effort is sure of success, and most satisfactory orders can be taken. Of course, in order to compete with European firms, terms must usually be given and prices must be competitive. Certain American firms dealing in firearms, hardware, tools, machinery, leather, drugs, etc., are following this method and are working up a most excellent business in their respective lines of trade.

SWITZERLAND.

A LIMITED MARKET FOR SHOTGUNS AND REVOLVERS.

The following information, covering the use of and trade in firearms in Switzerland, is furnished by Consul George Heimrod, of Berne:

The market for shotguns and revolvers in Switzerland is limited, for the following reasons: The area of the country, 16,000 square miles; the population, about 3,600,000; lack of great hunting fields and the strict laws relative to hunting; the provisions of the military law by which each Swiss (whose service is compulsory, if physically fit) keeps his arms in his private house. Officers and cavalry and artillery privates have revolvers; the infantry has rifles. All these arms are manufactured by the Swiss Government. The imports of finished arms in 1908 (figures for 1909 not yet obtainable) amounted to only $113,000, and they were imported from the following countries: Belgium, $48,000; Germany, $42,000; France, $8,600; Spain, $3,400; England, $2,700; United States, $1,400; all other countries, $6,900.

The Swiss customs duty is 50 francs per 100 kilos, gross weight ($9.65 per 220 pounds). Arms for the Government pay no customs duty. Shotguns generally in use are double-barreled guns of Belgian make, although American shotguns and revolvers are on sale. American arms are usually purchased through a Hamburg agent. Shotguns cost from $6 and revolvers of the better makes from $9 or $10 upward. [The addresses of firms in Berne which might be interested in American revolvers and shotguns, forwarded by Consul Heimrod, are on file in the Bureau of Manufactures.]

MOTOR CARS ABROAD.

AUSTRALIA.

TAXICAB SERVICE FOR AUSTRALIAN CITIES.

Consul John F. Jewell, of Melbourne, reports that a London-Australian company has been formed to provide the principal cities of Australia with efficient taxicab services.

One-half the $1,000,000 capital stock will be taken in Australia. The cabs will be the 4-cylinder, 15-horsepower. They will be made on the unit system, so that any unit will be interchangeable with any corresponding unit from stock, thus reducing to a minimum the time to reequip a cab in the event of a breakdown. The cab bodies (with the exception of the first 25) will be constructed in Australia. The 25 cab bodies referred to have already been shipped from London and the remainder of cab chassis, to the number of 300, are expected to arrive at Melbourne at the rate of 16 per month. It is understood that regulations will soon be issued under the new motor act and the carriage act of the State of Victoria to register and license motor cabs to ply for hire, and provide ranks and stands and a schedule of rates similar to those fixed for the ordinary cabs.

AUSTRIA-HUNGARY.

AN OPENING IN BOHEMIA FOR AMERICAN AUTOMOBILES.

Consul Charles B. Harris, of Reichenberg, furnishes the following information concerning the use of automobiles in his district and the possible opportunities which that market offers for American cars:

There is a demand here from well-to-do people for high as well as for medium-priced automobiles. The car desired in the immediate neighborhood of Reichenberg is that constructed particularly strong for a mountainous country. The streets in the towns and the roads throughout the country are well adapted to automobiling. There are many automobiles in this district, but only one American (a White) so far as known. The American cars can be sold here, if adapted to mountain traveling and their good qualities properly brought to the notice of the buyer.

During the past year it is said that over 800 automobiles of all classes were sold in northeast Bohemia for use at home and abroad. [A list giving the names of the Bohemia automobile manufacturers and the prices at which they sell their cars and accessories is on file in the Bureau of Manufactures.]

MEXICO.

AUTOMOBILE PROSPECTS IN THE STATE OF CHIAPAS.

Consul Albert W. Brickwood, of Tapachula, reports as follows concerning the opportunities for automobiling in the Mexican State of Chiapas:

On February 16, 1910, an American automobile made the first automobile trip in the State of Chiapas, accomplishing a run of over 80 miles in 5¾ hours from Jalisco, a station on the Pan-American

Railroad, to Tuxtla Gutierrez, the capital of the State. Some portions of the road need repairing, and there is no doubt that with the road rehabilitated the run can be made to Tuxtla Gutierrez and back to Jalisco in 1 day, with several hours' stop at either end, as against the present dilatory trip by coaches, of 3 days, averaging 7 to 8 hours as a day's journey, with all consequent inconveniences. The mail at present is carried from Jalisco to Tuxtla Gutierrez in light carts, in about 30 hours, with delays in the rainy season. The towns of Tuxtla Gutierrez, Corso de Chiapas, and Comitan, all of which are strategic points for the State, are dependent at the present time on the antiquated ox carts for their freight and for commerce, entailing the necessity of ordering in advance from 6 months to a year, if the merchants wish to maintain well-stocked establishments. The congestion at Jalisco at times reaches 300 tons and more.

There is little doubt that once the state government were convinced of the vast possibilities through developing the district alluded to, no difficulty would intervene in obtaining monetary concessions for mail service that would make it worth the while of any company to introduce an automobile service for passengers and particularly for freight. A railroad would take years and millions of dollars to arrive at the same results as an automobile service with thousands.

It would well repay American firms wishing to enlarge business to send down experts to look over the country. Automobile wagons for hauling freight, coffee, rubber, and other products and merchandise to and from town, railroad station, and plantation could also be used to great advantage in the principal towns on the Pan-American Railroad, and especially in Tapachula, the seat of the great coffee district of Soconusco.

Light runabouts, if exhibited and their capabilities proved, undoubtedly could be sold to many, to be utilized in trips between plantations and towns.

BICYCLE MARKETS.

DENMARK.

AN EXCELLENT MARKET FOR WHEELS.

Consul Wallace C. Bond, of Copenhagen, writes that there is an opportunity to extend the sale of American bicycles in Denmark, in which country the use of the wheel is very popular. He says:

If American bicycle manufacturers would energetically compete in the Danish markets with the German and English companies, they would find a ready sale for their machines. Denmark is virtually a wheelman's paradise; the roads are good; there are practically no grades, and there is an abundance of country inns where cycling parties can be accommodated. There are perhaps more cyclists in Copenhagen, in proportion to its population, than in any other city in the world, the number being estimated at 60,000. Special paths are laid out in many of the main streets of the city and everything possible is done by the local authorities to encourage the use of wheels. The number in service, for both business and pleasure purposes, is increasing. The average price paid for a wheel is about $40.

American bicycles are sold to only a limited extent, probably because the manufacturers have never pushed their goods here or made

any serious attempt to compete with the English and German makers. Proper advertising, proper agencies, and an intelligent campaign for business would probably result in the sale of 10,000 American bicycles a year in Denmark. Leading Danish importers admit the excellence of American machines, but complain that in the past small orders for 100 bicycles which they sent to America were not filled promptly, and they were compelled to wait an unreasonable length of time for their shipments. A little tact on the part of American firms, assurances of future prompt deliveries, and a general conciliatory policy would doubtless revive the trade.

UNITED KINGDOM.

OBSTACLES TO SALE OF AMERICAN MACHINES.

Consul Homer M. Byington, of Bristol, writes that the number of bicycles in use in the Bristol consular district and, in fact, in the whole of England is slightly increasing yearly. While many people use wheels chiefly for recreation purposes, more use them as a means of conveyance to and from work. The retail prices of the most popular makes range from $25 to $75, although there are cheaper makes which can be bought at retail for $27 upward. The chief difficulty encountered in the sale of American bicycles is the exclusive use here of double-tube clincher tires and the three-speed gear. Single-tube tires are not used at all, and the free-wheel coaster brake is an essential.

TURKEY.

INCREASE IN THE BICYCLE TRADE OF ALEPPO.

Consul Jesse B. Jackson reports as follows concerning the bicycle trade of the Aleppo district, which has been wholly neglected by American manufacturers:

Three years ago a bicycle of any kind was a rarity in Aleppo; to-day they are quite numerous and rapidly increasing in number, most of them being of the latest models. As the American exporters have paid no attention to the trade, no wheels have as yet been imported from the United States. English dealers have the bulk of the business up to date, with French and German firms supplying a few. There is no tax or license required by the local authorities or the Government. The customs duties are 11 per cent ad valorem, with the probability of an increase to 15 per cent in the near future. There being no bicycle manufacturers in this part of the Empire, all wheels sold here are imported.

WHEELS IN DEMAND.

The demand has always been and will undoubtedly continue to be for cheap-grade wheels, but Americans should not seek to sell such cheap grades as to be inferior and impracticable. Notwithstanding this condition, a limited number of high-grade bicycles can probably be sold. For obvious reasons there is little or no demand for ladies' wheels in Aleppo.

Climatic conditions require that the tires shall be double tube, and it would not be at all advisable to attempt to place bicycles with single-tube tires upon the market. It is essential that all bearings

be dust proof, or as nearly so as possible, owing to the sandy condition of all thoroughfares. Prices range all the way from $15 to $50, the lower price being principally for boys' wheels. Even the cheapest have all ball bearings, free wheel, rim brake, bell, double-tube tires, mud guards, tool bags, etc. In addition thereto, the more expensive models have coaster brake, two or three speed hubs, and some makes have a coaster hub brake enabling the rider to dismount at any position on the back pedal. It is particularly noticed that wheels having nickel-plated rims, handle bars, sprocket wheels, and pedal shafts are much used, selling from $20 to $30 retail.

INDUCEMENTS OFFERED BY EUROPEAN DEALERS.

Every possible inducement is offered by the European manufacturers, in the way of prices and terms of payment, to place their wheels on the market, and one firm offers with a certain attractive model selling at $50 sixteen accessories consisting of watch holder, lamp, bell, lubricants, inflator, spanner, etc., and a ten-year guaranty. The same firm offers to the local dealers with each order of five or more bicycles, without additional charge, a liberal supply of parts, such as spindles, cups, cones, etc., so that accidental breakage may be repaired without delay, and offers also to fit the machines with a special transfer bearing the name of the local dealer in place of that of the manufacturer, without extra charge, on orders of ten or more wheels, and prepaying all charges on all orders to the nearest port to Aleppo.

ROOM FOR AMERICAN WHEELS.

There are as yet no tandems or wheels carrying more than one seat sold here. Notwithstanding some of the liberal offers of European firms, it is believed that American bicycle dealers can find a good market here for their wheels, especially of the cheaper and medium priced grades. The most practical manner in which to introduce this class of goods is to supply some traveling salesman who visits Aleppo with the necessary sample wheels to exhibit to the trade. The only other way would be by correspondence. Practically all goods are imported into this district through the import and commission houses, a list of the names of which, together with those of the dealers, is on file in the Bureau of Manufactures. As English is little understood in Aleppo among the commercial circles, correspondence, as well as any literature addressed to them, should be in French. Prices should be quoted in that language, and c. i. f. Alexandretta or Beirut, the two ports of Aleppo, and not f. o. b. New York or some interior city in the United States, from which the buyer will be unable to compute the cost.

VENEZUELA.

BICYCLES USED FOR RECREATION—IMPORTS SMALL.

Consul Isaac A. Manning, of La Guaira, states that the importation of bicycles into Venezuela is small, amounting in 1908 to only $2,282, of which the United States supplied $1,641. During the first six months of 1909 the value of wheels imported was only $143. They are used principally in Caracas, and for recreation purposes. Any manufacturer sending a good, moderate-priced wheel and placing it in the hands of competent, active agents could dispose of his

goods. Care must be taken that the wheels come lightly and compactly packed, so as to avoid excessive freight and duty charges. Freight and duty are important elements in making up the cost. The duty on bicycles is 0.75 bolivar (bolivar = 19.3 cents) per kilo (2.2 pounds) gross weight, plus 55 per cent surcharge. Profits are perhaps slightly higher to the retailer or selling agent than in the United States.

THE HAT TRADE

AUSTRIA-HUNGARY.

GOOD OPENING FOR AMERICAN MAKES WITH PROPER SALES METHOD.

The number of American hats sold abroad is so small that separate statistics relating to their exportation are not available. Some suggestions for building up a foreign trade in hats are conveyed in the following report from Consul Will L. Lowrie, of Carlsbad:

Dealers in furnishing goods in the Carlsbad district of Austria are of the opinion that a large trade in American-made hats for men and youths could be established if careful attention were given to local conditions and demands. Attempts have been made in former years in this direction, but the merchants experienced so much difficulty in having their orders filled that they gave up the idea of pushing these goods. The main discouragement arose from the lack of a general agency in Austria carrying a large stock from which supplies could be drawn without the delay of sending direct to the manufacturer. This obstacle could be overcome quite easily by establishing a warehouse agency in Prague or Vienna, from which special orders could be filled quickly. Another reason given by the dealers for no longer handling American-made hats is that the wholesale prices of the best-known manufacturers were so high that the retailer could not sell them in competition with those of English, German, Italian, or Austrian manufacture. One of the famous hat makers of England ships more than $5,000 worth of his goods annually to a single concern in Carlsbad, and his sales in the district must be several times that amount. The retailer charges 18 crowns ($3.65) for his best quality and offers a dozen different styles.

Twelve years ago this Carlsbad dealer introduced American-made hats, but he was compelled to pay $4 wholesale for a derby, and freight and duty consumed the larger part of the $1 between that figure and the $5 the American pays at home. He expected to cater especially to the thousands of tourists who visit the city, but found that they would not pay more than the accustomed $5. The English hat at 18 crowns is one of the best offered for sale here. It is light weight and wears well, although not comparable to the best American makes in lightness or durability, nor will it keep its shape so well. A medium-priced article is the only one which could be offered in successful competition with German or Austrian makes. These are not so light or so fine as the English.

In 1908 the imports of hats into Austria-Hungary amounted to $1,367,815. Germany furnished 439,995 hats for men and youths, Italy 515,298, England 85,153, and France 304,771. Those from the latter country are mostly of straw and chip. In the same year the exports of hats to the United States amounted to about 10,000 and the imports were almost nil. Manufacturers in Germany, Austria,

and England have increased their prices recently, owing to the advance in the cost of raw material and wages.

American styles and shapes of hats would be acceptable in this district, in fedoras, derbys, and straws. If illustrated catalogues are forwarded, the price should be quoted in crowns and the descriptions should be in German. [A list of hat dealers in the Carlsbad district may be obtained from the Bureau of Manufactures.]

ENGLAND.

RETAIL PRICES LOWER THAN IN UNITED STATES.

Special Agent Henry Studniczka forwards from England four samples of soft hats extensively manufactured in that country. He says:

Having noted the low prices of all classes of hats, 50 to 75 per cent of the retail prices in the United States, I visited Stockport, some 10 miles from Manchester, one of the great hat manufacturing centers of Great Britain. A large quantity of hats of all kinds and descriptions is being shipped from this place all over the world, but owing to the fact that many London firms buy big job lots branded with their own names and reship these from London it is impossible to ascertain the export from Stockport. The soft hats are mostly sold for the South American market, and the prices to the wholesale jobbers at London, Manchester, and Liverpool are between 48 and 73 cents per hat. During my stay at Stockport I was shown one invoice of a shipment of over 4,000 hats that had been sold at 42 cents each net f. o. b. Stockport, boxing charged extra. Four samples of hats retailing in Manchester at $1.46 to $1.70 are forwarded herewith [on file in Bureau of Manufactures].

AMERICAN LITERATURE.

CANADA.

A VALUABLE AID IN PROMOTING COMMERCIAL OBJECTS.

In stating that the most potent promoter of American trade in Canada is American literature, Consul Frank Deedmeyer, of Charlottetown, describes this influence and the receipt of printed matter:

The periodicals and magazines coming across the border, containing many pages descriptive of American goods and manufactures, are read by the middle and upper classes. The growth in circulation of these may be judged by the fact that their imports from the United States amounted in 1905, in value, to $225,154, and in 1909 to $641,483. American fiction is preferred by the reading public. The Canadian press devotes much space to news from the United States. An examination into the sources of general reading matter found in three daily newspapers published on February 10, 1910, in Toronto, Montreal, and Charlottetown, respectively, shows that one-third of that not local in character relates to American subjects. The stereotyped items, which fill so large a space in the weekly and semiweekly press, are largely of American origin. As pointed out in a former report on wearing apparel, the people of the United States and of Canada are coming to a common style and taste in dress. This is also true in regard to literature.

In the fiscal year 1909 the Dominion imported books, periodicals, maps, pamphlets, and other printed matter to the value of $3,493,019. Of this total the United States furnished to the value of $2.536,553. Nearly one-half of the American imports came in free of duty. The total imports of these articles in 1905 amounted to $2,434,756, and those from the United States in the last-named year to $1.729,937. Some of the items entering into this trade are here given:

Articles.	Total imports.	Imported from—	
		United States.	United Kingdom.
Books, printed, periodicals and pamphlets, or parts	$1,178,568	$792,026	$325,759
Novels or works of fiction or of like character, unbound, or paper bound, or in sheets	107,246	68,925	30,355
Freight rates for railways and telegraph rates, bound in book or pampnlet form, and time-tables of railways	12,041	11,151	890
Banking and commercial blanks	178,670	156,042	20,724
Posters and other advertising matter	21,564	19,857	1,525
Labels, tags, tickets	138,266	108,396	16,379
Maps and charts	17,596	12,888	4,355
Advertising pamphlets, show cards, price lists	854,566	718,633	120,164
Printed music and music for mechanical players	154,073	125,088	26,808
Bibles and prayer books	234,820	77,517	90,346
Text and scientific books	402,214	269,529	105,012

Works of fiction and periodicals read in the Province of Prince Edward Island, come almost exclusively from the United States. They are found on sale generally in bookstores in the cities. Their sale could be further extended to smaller towns, where the demand for reading matter is growing. [Lists of booksellers in Canada and other countries are contained in the specially compiled directories made by all American consuls and which are on file for consultation at the Bureau of Manufactures.]

SIAM.

ENGLISH PRINTED LITERATURE NOW DESIRED BY PEOPLE.

Writing from Bangkok, Vice-Consul-General Carl C. Hansen says the sale of American books in Siam has as yet hardly been attempted, except by agents of the American Bible Society, who are disposing of an increasing number of Bibles yearly. Mr. Hansen calls attention to the prospective market for American publishers:

It seems that there should be a good demand for dictionaries, encyclopedias, histories, illustrated works on arts and sciences, and especially for schoolbooks in the English language. A great many Siamese now speak and read English, and are eager to secure good books in that language, which is taught in the public schools throughout the Kingdom, and in time will become the prevailing language in the trade centers of Siam, where even now all business correspondence may be conducted in English and be understood by both Siamese and Chinese merchants.

The Siamese language itself is a great mixture of nearly all the dialects and languages of the Far East, namely, Chinese, Malay, Mon, Cambodian, Sanskrit, Pali, and others, but most of these words have been transformed into monosyllabic form, which in common with the Chinese is characteristic of the Siamese language.

There should be quite a demand for American schoolbooks and school supplies through the American mission schools, of which there

are 25 or more located in Siam, some of these having an enrollment of over 250 pupils each, and this work is gradually increasing, as may be seen from the fact that the American missionaries in the north of Siam alone are asking their friends in the United States to provide $375,000 endowment for educational purposes for 1910.

According to customs reports, books and printed matter to the value of $24,868 were imported into Siam for the fiscal year 1908–9. The customs tariff on books and printed matter is 3 per cent ad valorem, but books sent by post and for personal use are admitted free of duty.

The authors' copyright act was published in 1901, and provides that copyright may be obtained only for literary works printed and first published in the Kingdom of Siam. The copyright remains in force throughout the lifetime of the author and for seven years after his death, provided, that if at the expiration of such period of seven years after death the total term of any copyright shall not have reached 42 years, such copyright shall continue to remain in force until 42 years shall have been reached. The fee for registration of copyright for each literary work is about $2, and the same amount for transfer of copyright. A copy of every literary work copyrighted must be presented to the Royal Library, the Vajirayan Library, and the Sacred Library.

[The names of dealers in school supplies at Bangkok may be secured from the Bureau of Manufactures.]

MARKET POSSIBILITIES.

SPAIN.

A GOOD MARKET FOR AMERICAN PUMPS IF PROPERLY WORKED.

Consul Charles L. Hoover, of Madrid, says there is a good market in Spain for American pumps if they are properly pushed. Some trade suggestions follow:

There appears to be an especially good outlook for electric pumps suitable for lifting water to the tanks on the roofs of the tenement and apartment houses that abound in Madrid. A large portion of the city is on hills as high as the reservoir, and there is not pressure enough in the city mains to raise the water above the first floors. All the houses in this, the best residence section of the city, are equipped with tanks on the roofs, to which the water is lifted by electric pumps. Building is progressing rapidly in this city, and there will certainly be a good market for some time to come, inasmuch as the city has just expropriated several streets for extending the boulevard system. As it passes through the most densely populated parts, a large number of new houses must be erected to care for the people left without homes.

Any one of the three leading dealers in pumps in this city will accept an agency for American pumps, in case they are convinced that the goods will compete with those from European countries. These dealers may be addressed in English.

There is no market here for any sort of gasoline engine on account of the high price of gasoline. There is a demand for various types of hand pumps for farm use, and it might be well to push the sale of this class of goods. [The addresses of the dealers in pumps referred to are on file in the Bureau of Manufactures.]

CATALONIA.

FOREIGN TRADE REDUCED BY THE LOCAL INDUSTRY.

The following information concerning the pump trade in Catalonia is furnished by Consul-General Frank D. Hill, of Barcelona:

Considerable numbers of American pitcher pumps used to be imported here, but Catalan manufacturers now put pitcher pumps on the market at one-third the price of an imported pump and, while the Catalan pump is, of course, inferior in quality, the difference in price is too great to be overcome. Mining pumps are still imported, but as most of the mines are worked by English, German, and French firms, material is purchased chiefly in those countries. There is a certain demand for hand pumps, although competition from local firms is strong.

The value of pumps imported into Spain in 1907 was $290,000, from the following countries: Germany, $108,800; United Kingdom, $61,200; France, $48,200; United States, $47,900; Belgium, $13,200; all other countries, $10,700. The foregoing does not include pumps used to raise water on farms. It is impossible to show the imports of these pumps as they are classed with agricultural implements.

It will be seen from the above figures that the United States has a fair share of the foreign pump trade of Spain. In dealing with prospective buyers or with local representatives it should be remembered that correspondence and catalogues should be in Spanish, and that long credits are the rule here, foreign makers, especially Germans, being most liberal.

GREECE.

AMERICAN MANUFACTURERS CAN FIND A MARKET IN KALAMATA.

From personal investigation as to the conditions prevailing in Kalamata, capital of the Greek district of Messenia, Consul A. Donaldson Smith, of Patras, furnishes the following report:

In Kalamata and in the populous neighboring villages, American manufacturers, by making reasonable efforts, would find a large market for windmills, corrugated iron blinds for windows and doors, and all other metal work connected with building operations; engines of small horsepower for silk factories, olive presses, and small workshops; washers and driers; agricultural implements; specialties in household utensils; and cotton fabrics. Outside of these lines it is useless to seek for sales.

It is likely that the construction of a new tram line between Kalamata and Nissi, over 12 miles, will be begun next winter. A short line was constructed four months ago in the town of Kalamata from materials imported from Hamburg, Belgium, and England. Correspondence concerning the building of the new tramway should be addressed to the party whose name is transmitted.

I succeeded in interesting three well-known business men in these matters who requested me to put them in touch with American houses handling the foregoing classes of manufactures. One of the three desires to correspond with importers of "Italian raw silk," which is manufactured to a considerable extent in Kalamata and which now finds its way to the United States via Milan. This party wants to create direct trade with the United States and thus save the additional expense attached to the trade as now indirectly carried on. The ad-

dress of a party who desires to handle only windmills and olive presses is also transmitted. [The addresses mentioned by Consul Smith are on file in the Bureau of Manufactures.]

NORWAY.

OPPORTUNITY FOR AMERICAN DENTAL SUPPLIES IN STAVANGER.

Consul P. E. Taylor says that an interview with dentists in Stavanger shows that most of them prefer American dental supplies, which many order from a firm in Christiania. He tells how the trade may be increased in this Norwegian port:

A number of dentists are using entirely American instruments and supplies, while a number use German because they are cheaper and because they have not been made acquainted with the superior American goods. It is believed by the leading dentists that only American goods would be used were an opportunity given the 14 local dentists to become acquainted with the merits of American supplies and to purchase them here or direct from the United States.

I have not been able to find a firm ready to take up the sale of American goods because there are no dental-supply firms here, but direct correspondence with the dentists [names obtainable from the Bureau of Manufactures] would probably create a demand for American supplies which would induce the dentists either to purchase their supplies direct by some combined plan or induce a local firm to handle American goods.

TURKEY.

COMBINATION TIMEPIECES IN DEMAND IN THE NEAR EAST.

Consul Milo A. Jewett, of Trebizond, repeats the announcement that there is a demand in Turkey for watches that indicate both Turkish and "Franc" time. He writes:

For some years there probably will be a considerable demand for such watches in this country and Persia. For centuries reckoning time in this part of the world has been based on the assumption that the day ends and the new day begins at sunset, which is called 12 o'clock. This was universally observed by the people, who seldom had watches, judging the time of the day by the sun, this system also being employed by the civil and religious administrations. Watches and clocks made to keep regular mean time must be changed almost daily to adjust them to sunset time.

Turkey is adopting modern improvements and the more accurate and scientific reckoning of time used by the "Francs" is coming into use. After discussion by the Government it has been decided not to impose the Franc or mean time by law. It will be introduced gradually. Various administrations will employ mean time and the people will gradually become accustomed to and adopt it, being already introduced into most of the custom-houses and in some military bureaus and schools. The building of railroads, which must employ accurate time, will tend to introduce modern time. There will be a long period of transition from the old to the new, during which both systems will be in use. During that period many people will want watches showing both kinds of time, and it seems that a good business will be done in them. Watches of this sort have been

made and sold in Turkey for years. They were bought only by a few persons, either foreigners or those having some relations with foreigners.

There are three systems of double-time watches. One has two dials, one dial on each side of the watch; another, which seems more popular and is more easily repaired, has two small dials side by side on the same face. The third system, which seems to be the best, has a central fixed dial for regular time and around it a movable dial for Turkish time. It is stem wound and stem set with a mechanism which permits changing the hands of the watch or swinging the outer movable dial. The latter consists of two concentric rings, the outer one bearing the figures for minutes and the inner one for the hours. The two are turned with the same motion and their normal relation to each other is automatically maintained. I think this watch is patented in Europe.

Most of the watches sold here are low priced, retailing at $2.50 to $5. The village people generally buy a solid silver hunting-case watch of large size, 18 or 19. The city people buy watches of 12 to 16 size, with silver, gold-filled, gun-metal, and enamel open-faced face. [A list of watch dealers and jewelers in Turkey may be secured from the Bureau of Manufactures.]

TUNIS.

HARDWARE AN IMPORTANT BRANCH OF TRADE IN THE REGENCY.

In answer to an inquiry, Consular Agent Auguste J. Proux furnishes the following information concerning the opportunity which Tunis offers for American hardware:

Tunis ought to be a good field for American hardware. The number of wholesale dealers is limited, it is true, but they appear to have developed a rather important trade in the course of the last few years. The business is sound and profitable. Notwithstanding poor harvests and other adverse circumstances, the imports have more than trebled in six years.

The following statement shows the imports of machinery and tools and other metal articles into Tunis in 1908, the latest year for which statistics are available:

Whence imported.	Machinery.	Tools and other metal articles.
France and Algeria	$1,283,000	$1,236,000
Germany	344,000	53,000
Switzerland	207,000	4,000
United States	106,000	10,000
Great Britain	48,000	22,000
Belgium	48,000	22,000
All other countries	74,000	25,000
Total	2,110,000	1,372,000

The imports of machinery from Germany and Switzerland represent, mainly, locomotives and railway materials on two contracts now finished.

AGRICULTURAL MACHINES—INTRODUCING AMERICAN HARDWARE.

Deducting the foregoing exports from Germany and Switzerland, supplied at a time when France could not handle the railway require-

ments in a given time, it is apparent that France has a monopoly of all manufactured metals in Tunis, if exception be made of American agricultural machines.

In the important branch of agricultural machines it is imperative to purchase in the best market, hence the preference for the American machines, but for the many articles sold by hardware dealers in small quantities the inducement to look for "something better" is not so strong, and the merchants find it easier to correspond in the French language and get their supplies from French houses. This is made more clear from the fact that American specialties are often imported through French houses, and it may be said that such American hardware as finds its way here does so because French houses, for some reason, find it convenient to promote their sale.

It would not perhaps pay an American manufacturer of a special article of hardware, the trade not being large enough, to make a direct effort for its introduction here, but an American traveler, representing a number of hardware houses, each having some specialty, would find it profitable to extend his tour to Tunis, Sousse, and Sfax. A Paris commission house, representing mainly Canadian manufacturers, operates successfully in this line. Large French hardware manufacturers cause the dealers to be visited once or twice a year by special representatives, besides having agents here generally.

An illustration of foreign enterprise here is the recent establishment of a commercial museum by the Hungarian Government, on the main avenue in the city of Tunis, and contains samples of the principal Hungarian manufactures.

Metal articles of French manufacture, imported direct from France, in vessels flying the French flag, are free of duty in Tunis.

CHINA.

EXTENSION OF IRRIGATION CREATES MARKET FOR POWER PLANTS.

A primitive Chinese system of irrigation in Shantung Province that may lead to the installation of windmills to furnish pumping power is described in the following report prepared by Consular Clerk A. W. Gilbert, of Chefoo:

During the drought last year the magistrate of Changshan, in Shantung, ordered that a deep well should be dug for every 10 mow (mow=one-fifth acre) of land. Those owning less than 10 mow were compelled to join with their neighbors in a common well. The sinking of the wells was supervised by an official who had the general oversight of the scheme. In this way 3,560 wells, deep enough that an abundance of water was available in dry times and watering 35,600 mow, were dug.

The water was raised by the primitive rope-windlass basket method, which kept two men busy night and day, and it was not unusual for a man to faint from exhaustion on the hot days. It was found that, owing to the introduction of industrial enterprises, wages had so advanced that laborers were not available for this arduous work and it had to be done by the farmers themselves. The installation of windmills is now advocated as a means of overcoming this handicap.

The Changshan magistrate reported the results of his experiment to Governor Sun Pao-chi, with the result that the latter has ordered wells dug in every dry region of the Province.

SIAM.

AMERICAN MANUFACTURERS SHOULD SUPPLY RICE-MILL MACHINERY.

The following report, covering rice mills in Siam and the extensive use of milling machinery, is furnished by Vice-Consul-General Carl C. Hansen, of Bangkok:

The first mill in Siam was built by American engineers in 1858, and since that period the industry has gradually increased until at present it supports 47 rice mills, which, besides milling rice for local consumption, furnished milled rice for export to an amount which has averaged about 1,000,000 tons yearly for the last five years.

The milling machinery imported during the fiscal year 1908–9 was valued at $131,946, and was imported principally from the following countries: United States, $2,538; Germany, $96,996; United Kingdom, $17,275; all other countries, $15,137.

As rice production is the chief resource of Siam, and as it will remain so on account of the peculiar fitness of the country for the growing of this crop, there will be a steady demand for improved milling machinery, in which American manufacturers should have a larger share.

CANADA.

LARGEST SHARE OF PAPER MANUFACTURES FROM THE UNITED STATES.

According to statistics furnished by Consul Frank Deedmeyer, of Charlottetown, the imports of paper and paper manufactures into Canada during the fiscal year 1908–9 were valued at $3,651,318, as compared with $1,408,209 in 1900, showing an increase during the decade of $2,242,109. The following statement shows a few of the leading classes of paper imported, together with their imports from the United States and the United Kingdom in 1908–9:

Articles.	Total.	From the United States.	From the United Kingdom.
Wall paper	$215,945	$154,819	$45,051
Papetrie and other manufactures	1,055,279	741,538	204,206
Printing paper	374,986	195,580	178,264
Ruled, bordered, coated, and boxed	100,504	61,112	21,954
Tarred paper	295,934	281,938	12,350
All other paper	1,608,670	980,806	375,329
Total	3,651,318	2,415,793	837,154

MEXICO.

SUGGESTION FOR EXTENDING TRADE WITH CHIAPAS.

Consul Albert W. Brickwood, jr., of Tapachula, reports as follows concerning the opportunities which the Mexican State of Chiapas offers for increased American trade:

There seems to be no reason why American trade should not predominate in this port and throughout the State; the outlook already shows a decided increase in the demand for American products owing to their superior quality. A trade campaign and the personal visits of trade representatives familiar and in sympathy with the people and customs here would not fail to bear fruit. Another

cause for encouragement for American trade is the Pan-American Railroad, owned almost entirely by American capital, which promises excellent service as well as an influx of American agriculturists to the district.

The largest German house here carries a constant stock of the gold value of $150,000, principally German goods, and which has the bulk of the trade in supplying Tapachula and the numerous outlying coffee plantations, the greater number of which are controlled by Germans, who generally purchase German goods, though it has been a matter of observation that if American goods of better quality are offered at lower prices they are selected.

It might not be out of place to mention that European houses receive a preference partly due to the extension of long credits, which are expected here. The necessity of better packing by American manufacturers has often been discussed, but it is essential to exhort to greater care in this direction, and no less so in the matter of custom-house papers, in the packing of which complaint is made of loss and embarrassment to the importer, who suffers a fine for all errors in specifications.

One of the greatest drawbacks to American trade here is the fact that nearly all the coffee and rubber produced here goes to Europe, with the result that these people buy where they sell. If American importers of coffee and rubber would establish branch houses or agencies in Tapachula for the purchase of these two commodities they could deflect this trade from Europe, where it now goes, and this would naturally result in an increased purchase of American products in return.

The following statement shows the imports into Tapachula from the several countries for the five months ended November 30, 1909:

United States: General merchandise, foodstuffs, cotton and woolen goods, hardware, machinery, agricultural implements, leather goods and glassware, drugs, liquors, explosives, arms, stationery, etc	$18,137
Great Britain: General merchandise, machinery, hardware, cotton and woolen goods	10,246
Germany: General merchandise, machinery, fancy goods, hardware, drugs, glassware, stationery, and jewelry	9,158
Guatemala: Coffee, hides, earthenware, straw hats and mats, native shoes, and leather goods	8,474
Japan: Fans, silks, fireworks, curios, porcelain	1,975
France: Drugs, perfumes, liquors, lace, toilet articles, millinery, stationery, olive oil, and canned goods	1,568
Spain and Portugal: Wines, canned goods, olive oil	986
China and India: Silks, silverware, tea, spices, fireworks, curios, and Chinese foodstuffs	981

The foregoing figures do not include the considerable amount of imported goods carried by the mercantile houses in Tapachula, which come via Salina Cruz or Puerto Mexico and are entered in the custom-house there.

AMERICAN BUSINESS IN MEXICO.

REPRESENTATIVE WHOLESALE HOUSES WANTED IN THE LARGE CITIES.

In calling attention to the small number of American wholesale houses in Mexico and to the necessity therefor, Consul G. B. McGoogan, of Progreso, writes as follows:

It seems to be the tendency of Americans to seek investments in mines, or rubber, coffee, fiber, and tropical-fruit plantations rather than in mercantile lines. There are at least a dozen large cities

in Mexico that offer splendid openings for American wholesale houses in the different branches of business, and American exporters and manufacturers should establish such houses therein. The United States has arrived at the point when it must have its personal business representatives wherever it expects to gain and hold trade. The occasional trip of a salaried American commercial salesman, no matter how competent, can not be expected to compete with foreign firms having branch houses, managed and owned wholly or in part by their own countrymen, who can speak the Spanish language, and who are thoroughly familiar with all local conditions.

CUBA.

THE BEST GRADE OF TRAVELING GOODS IS IMPORTED.

In response to requests for information as to the importation of trunks into Cuba and the general trade thereon, Consul-General James L. Rodgers, of Habana, writes:

Quite a local industry in manufacturing trunks and traveling goods of a related character has been built up in Cuba, but as the product is almost entirely of the cheaper grades there has been little impediment to importations of the more expensive wood and leather trunks and valises. This trade is distributed about equally between Europe and the United States.

The duty on trunks with ordinary trimmings and valises imported from the United States is 25 per cent ad valorem, this being 20 per cent lower than the tariff on European goods.

The successful exploitation of such goods can only be accomplished by personal solicitation, as the merchants handling these articles are almost without exception Spanish and are accustomed to buying from samples.

VENEZUELA.

HOW AMERICAN TRADE CAN BE INCREASED.

Consul Isaac A. Manning, of La Guaira, furnishes the following information concerning the conditions governing the trade in foreign articles in Venezuela:

Perfumes are sold in all classes of stores, principally dry goods, confectionery, and drug stores, etc., in respective order. No distinction is made in the customs between alcoholic and nonalcoholic perfumes, the duty being 48.3 cents per kilo (2.2 pounds), plus surcharge of 55 per cent gross weight. There is an additional charge of 38.6 cents per 100 kilos (220 pounds) for cartage or transfer from ship to the custom-house, for the benefit of the Harbor Corporation of La Guaira.

In order to compete with Europeans, the utmost lightness consistent with safety should be attained in all packages, as duties are assessed on the gross weight. Failure to meet their European competitors in light and secure packages has resulted in disappointment to American exporters, who might otherwise have built up a good trade.

Perfumery is generally used by Venezuelans, climatic conditions here, as in all other tropical countries, being a great factor in forcing its use. French, English, and German perfumes have the largest sale,

being attractively packed in fancy bottles of from half an ounce to two ounces. The perfumery is generally the flower-odor kind, although musk and other leading odors are noticeable at times. The imports of perfumery during the first six months of 1909 were as follows: From France, $21,728; Great Britain, $7,845; Germany, $6,588; United States, $5,861; all other countries, $4,691; total, $46,719.

If the perfumes are sent by parcel post, each parcel must be accompanied with three copies of the declaration, setting forth the name of the article, number of packages contained, and the weight and value. Blanks for parcel-post declaration can be secured at any United States post-office.

The usual terms of credit here are from 60 to 90 days, according to the standing of the purchasers, although many Venezuelan houses prefer to discount their bills for cash. Most of the importing houses do a jobbing business and act as manufacturers' agents. Spanish being the language of the country, catalogues and other advertising mediums in English are of very little, if any, account.

CASH REGISTERS, TYPEWRITERS, PIANO PLAYERS, AND SPORTING GOODS.

The use of American cash registers is becoming almost general in Caracas, through the efforts of an active American citizen, residing and in business there, to introduce these machines by the system of demonstration. The citizen referred to [name on file in the Bureau of Manufactures] has achieved the introduction of not only the cash register, but of a standard American typewriter, a standard piano player and automatic piano, and of American sporting and photographic goods.

This gentleman has searched out his customer, has demonstrated the manner of using the machine or article, and has done business where all sorts of catalogue presentations and inducements have gone unnoticed. The result is the American typewriter is now an adjunct of nearly every important office or commercial house in Caracas and La Guaira. The cash register rings up the amount of one's purchase in Caracas as in an American city, and one may enjoy classical music mechanically produced on the piano in many homes as the result of up-to-date sales methods.

Cash registers not having been classified for customs purposes, the President of the Republic has directed that they be placed in class 3 of the customs tariff and that they be described as "cash registers, with their accessories." The duty on goods under class 3 is 0.25 bolivar per kilo, gross (4.82 cents per 2.2 pounds), plus a surtax of 55 per cent.

HIGH FREIGHT CHARGES ARE CHIEF OBSTACLE TO CALIFORNIA GOODS.

California canned goods, such as fruits, asparagus, tomatoes, etc., are occasionally met with in Venezuela, but California wines seem to be absolutely unknown. It would seem quite possible to introduce them here if a reasonable freight rate could be secured from San Francisco to Colon, there being competing lines on this coast which would insure a fair rate from Colon to La Guaira. It is probable that a through rate from California has been made, but the figures can not be obtained here. On coffee and cocoa from here to

California the rate is prohibitive, being $17.15 and $19.60 per ton, respectively.

From France the rate on canned goods and wines is $9.12 per ton (weight or measure, at company's option), and the ordinary rate between here and Colon is $3.86 or $4.82 per ton on general cargo.

Thus it will be readily seen that the cost of freight will be the leading question in any effort to meet French, Italian, and Spanish competition here, and when it is remembered that the only vessels coming direct from Colon here are of the above three nationalities, it may be difficult to secure a through rate that will be sufficiently low as to make this possible.

No one can question the quality of the California products, nor their popularity where they have been introduced, and there would be a good sale of both canned goods and wines in Colombia and Venezuela, if the freight rate can be so arranged as not to frighten would-be customers at the beginning.

PARAGUAY.

HIGH RETAIL PRICES MAKE FINE TOILET SOAPS A LUXURY.

Replying to an inquiry regarding the market for toilet soaps in Paraguay, Consul Cornelius Ferris, jr., of Asuncion, reports that the leading mercantile establishments of that city carry on a combined wholesale and retail business and, as a rule, are importers of all lines of merchandise. It is among such houses that toilet soaps and toilet preparations are to be found, instead of among druggists. He adds:

Fine toilet soap is an article of luxury, due to a tariff duty of 55 per cent ad valorem on the commodity, the valuation being fixed by the tariff law at $2 Argentine gold ($1 Argentine gold=$0.965 American gold) per kilo (2.2 pounds). Ordinary perfumed toilet soap is subject to the same tariff rate, but is valued for customs purposes at 40 cents Argentine gold per kilo. In the one establishment making a specialty of toilet articles the principal soaps handled are of English and German manufacture. One grade of Pears soap, such as would cost 25 cents a cake in the United States, sells at an equivalent of 43¾ to 47½ cents American money per cake, a finer grade of the same make at $1.13 to $1.22, White Rose and Cucumber brands at 93¾ cents to $1.02, and Carnation Complexion at 15½ to 17 cents. A medium grade of English soap for either toilet or laundry purposes is retailed at 75 to 82 cents American gold for three double cakes, put up in about the same size and shape as Ivory soap, but the cakes, instead of having the clear, neat finish of the American product, have the appearance of common brown laundry soap.

The soap commonly used is a domestic product manufactured from coco palm, a light, white article, made up into bars containing about three times as much as an ordinary cake of toilet soap, and selling at an equivalent of 18¾ to 20½ cents American gold per cake. This is of only a fair quality for toilet purposes. There should be a good demand on this market for a medium-priced toilet soap of good quality, nothing being available in the local shops between the com-

mon coco palm and the high-priced European goods. The larger mercantile establishments generally order direct from their European correspondents. There is also a prominent class of commission merchants in this city making a specialty of representing foreign houses desiring to introduce goods in this market, a list of whom is forwarded, along with a list of the business houses handling toilet soaps [both of which are filed in the Bureau of Manufactures].

CONCESSIONS IN TURKEY.

HIGHWAYS, RAILROADS, DRAINAGE, IRRIGATION, RIVERS, AND PORTS.

Consul-General G. Bie Ravndal, of Beirut, furnishes the following information, translated from the Levant Herald, concerning the building of highways and railways, drainage of swamps, irrigation, improvements of rivers, and deepening of harbors in Turkey:

The Minister of Public Works, in an interview with the editor of Puzantion, made the following declarations:

There is first the matter of the highways in Anatolia for a length of 19,262 miles, of which 4,971 miles are in a very satisfactory state, 9,320 miles are practically ruined, and 4,971 miles are to be constructed; $52,800,000 is necessary for this work. We must contract for a loan of $6,600,000 at the end of each year, to procure such a sum during eight years. In that space of time, the Anatolian regions will have been furnished 19,262 miles of highways. The Ministry of Finance will not be burdened with any additional difficulties on account of this work. The payment of interest and the amortizement of the loan can be guaranteed by the sum of $1,540,000 that will accrue annually from the collection of taxes, which amount can be increased, in proportion, after the construction of roads, as the value of arable lands will increase and their crop-producing capacity will be augmented. In short, this question of roads is resolved theoretically in all its technical details, and nothing remains but to put into execution the plans regarding it.

As regards railroads, the construction of the Homs-Tripoli line has already been undertaken. There remain only a few formalities to be carried out before the building of the Panderma-Soma line is started; it will connect the Sea of Marmora with Smyrna.

Negotiations are actively carried on with an American company [the New York address of which is on file at the Bureau of Manufactures] concerning the construction of a railroad line from Sivas to Van, with a branch line to the port of Youmourtalik near Alexandretta, and another line to Mosul. Thus there will be a network of railroads in Anatolia, the trunk line having a length of 1,242 miles. The American concern requires authorization to exploit the mines within a certain distance on both sides of the line and renounces, in return, any claim to a kilometric guarantee. The Government has accepted in principle this proposition, but on terms requiring the exploitation of the mines within a reasonable period of time.

A railroad from the port of Samsoun will be connected with the Sivas-Van line at Sivas and extended to Angora. Another will connect the port of Trebizond with Erzeroum and, later on, be extended to the Russian and Persian borders. These latter lines will be built by the Government, which is sure to be able to find money in foreign markets for the construction of both roads and railway lines.

The Ministry of Public Works has in view projects for constructing two lines in Albania, one from Monastir to the Adriatic Sea, the other from the Mitrovitza railroad to the Adriatic. Still another line will join the Provinces of Roumelia with Baba Eski, Kirk Kilisse, Mouratli, Rodosto Devlet aghatch and Hairabol. Two plans for this line are being examined.

SWAMPS, IRRIGATION, RIVERS, AND PORTS.

For drainage of swamps and irrigation of lands, work is already being executed on a large scale. They have already begun the irrigation works in the plain of Koniah. The project of irrigation for the plain of Adana has been approved by the Council of State, and as soon as ratified by the Council of

Ministers, tenders will be invited. Sir William Willcocks is busy in the Province of Bagdad, constructing canals and dikes, with an allowance of $704,000 for this year.

A bright future is reserved to the Vilayet of Adrianople, thanks to the prospective improvements of the river Maritza. Dams will be constructed there and the course of the river regulated to render it navigable. This enterprise will be undertaken in a short time. Similar improvements are planned for the rivers Vardar (Saloniki), Carassou (Serres), Drina (Chkodra), Menderez and Ghediz (Smyrna). Engineer Chrader is charged with the study of these schemes.

There are also under consideration in the Ministry of Public Works projects for the deepening of the ports of Dedeagatch, Cavalla, Tripoli in Syria, Tripoli in Africa, Haifa, and Rhodes.

Contracts are being prepared for the establishment of tramways and other electric plants.

There has also been prepared a bill relating to concessions, which has to be voted by the Ottoman Parliament. The Government will use such law to good advantage in the matter of the concessions that it will have to grant.

[A copy of the Turkish Concession Law, in English, transmitted by Consul-General Ravndal, is on file in the Bureau of Manufactures.]

GOVERNMENT SUPPLIES IN TURKEY.

COMPETITION OF FOREIGN FIRMS AT CONSTANTINOPLE.

The following information, which should be of special interest to American manufacturers of the several commodities named, has been gleaned from trustworthy sources:

The rifle used in the Turkish army is the Mauser, made in Germany. About 500,000 of the Peabody-Martin rifles purchased in the United States in 1878 are shortly to be rebarreled to shoot ammunition as single-shot rifles.

Tenders were invited some time ago for intrenchment tools, and an American firm offered the Elliot tool, which weighs but 2¼ pounds, and which the firm stated was used by the army of the United States, but the contract was given to a European bidder for picks and shovels, with wooden handles, and weighing 12 pounds per pair, for the reason that they were cheaper than the American tool.

No official revolver has yet been selected, although it was thought that the contract would go to a Belgian company, but a representative of the Colts company appeared and prevailed upon the authorities to give the Colt pistol a trial, which proved so successful it is possible that that weapon may be accepted.

The automatic guns are of various patterns, but mostly Hotchkiss, made in France. The field guns are all of German make. The saddles were also of German manufacture until a British firm secured the last contract, about a year ago, for 10,000. The armored automobiles, numbering about 15, were purchased in France.

The tents, up to the present, have been furnished by Germany, but it is reported that tenders for 100,000 conical tents for the officers and sectional shelter of the men, are soon to be called for.

Germany has heretofore supplied the boots for the army, but recently a British firm secured the contract. It is, however, reported that the one lot of British boots received has been rejected as not coming up to the specifications.

The cloth for uniforms has always been furnished by German manufacturers, but a British firm secured the last contract for

3,000,000 yards. It is claimed that the contract called for all-wool goods, but that the cloth supplied contains a certain amount of cotton. The outcome is not yet known.

NAVAL AND LIGHT-HOUSE SUPPLIES.

It was generally thought that all arrangements had been made for the purchase of warships in England, but the contract has not yet been placed, so that it may go to the United States or Germany. The ships of the Turkish navy are of English, French, Italian, and American construction and the guns are of the same manufacture, respectively, except that Italian ships are supplied with English guns, no guns being manufactured in Italy.

The failure to sign the contract agreed upon to buy American wireless apparatus is said to be due to the pressure of foreign officers for the introduction of a less modern system.

The administration of Turkish light-houses being a concession given to a French company, which can buy its supplies wherever it chooses; the most of them are naturally purchased in France.

Irrigation is being carried on by the Government in Mesopotamia, under the charge of Sir William Wilcocks, who has almost a free hand in the matter of methods and supplies. He is said to be a great admirer of American irrigation methods and machinery, and it is announced that he will be in the United States during June, July, and August of this year to study a new system here. It is said that many of his assistants will be Englishmen, a fact that will naturally cause an increased demand for English goods, but that the steam shovels, dredges, etc., will probably be bought in the United States. On the other hand, it is possible that much of the work will be awarded to subcontractors, who will most likely use such machinery as they choose.

AGRICULTURE.

AGRICULTURAL ASSOCIATIONS.

GERMANY.

EXTENSIVE UNIONS OF FARMERS FOR MUTUAL AID AND PURCHASES.

Farmers' leagues in Germany are described comprehensively in the following report from Consul-General A. M. Thackara, of Berlin. They are effective in aiding the membership financially, the loans aggregating over $300,000,000; in improved crop culture through traveling experts, in selling farm products, and in purchasing supplies which amount to many million dollars annually.

During the latter half of the nineteenth century associations formed among the agricultural classes of Germany did much to promote scientific farming and in more recent years they have extended their influence with the advancement of technology. When the German farmer came to recognize that he was separated from the center of social life and from his associates in the same vocation, that he must remain in touch with the scientific and economic activity of the country in order to share in the progress made, he found that agricultural organizations were the means by which to attain his object. Consequently a large number of cooperative associations sprang up throughout Germany, which in addition to the former idealistic purpose of agricultural unions have the further object of promoting the interest of the farmer, especially in the buying and selling of products and merchandise. These local societies have united into branch societies, circuit and district societies, which form the basis or nucleus of the two general German agricultural organizations of the present time. This movement, looking to the union of the smaller groups of societies into large central organizations, was started during the latter half of the nineteenth century by Schultze-Delitzsch and Raffeisen, two eminent German social economists. Under the leadership of these men the unions grew rapidly, their greatest growth being coincident in time with the centralization of capital and the formation of industrial trusts.

TWO LEADING CENTRAL UNIONS.

The larger of these organizations has been known since the year 1903 as the Imperial Union of Agricultural Societies (Reichsverband der deutsch landwirtschaftlichen Genossenschaften). The second organization, known as the General Union of Agricultural Societies (General Verband Ländlicher Genossenschaften für Deutschland) was founded in 1871 at Neuwied, Germany. These two agricultural

organizations were united in 1905 for all administration purposes. It was considered that since both organizations were working toward the same end this union would better enable them to accomplish their purpose and would dispense with any duplication of administrative expense. Within the larger or Imperial Union, however, the smaller General Union retains a distinct character of its own, and in a measure preserves its autonomy. For instance, both organizations continue to issue separate reports. For this reason it is convenient to treat them here as two organizations.

The local societies making up the Imperial and General organizations were formed for various purposes. Many of them may have a single activity, others have their functions so intermingled that it is not always possible to distinguish them. In general, however, one may make the followng classification of groups, namely, Savings and Loan Societies, Societies for Consumers, and societies for the sale of farm products. This latter group is often subdivided according to the character of the products sold.

OPERATIONS OF THE IMPERIAL LEAGUE.

On May 15, 1909, the Imperial Agricultural Organization, according to its annual report, embraced 67 circuit unions, made up of 18,333 local societies. The total membership of these societies was then 1,575,000. The local societies were divided into the following groups, in accordance with their principal purpose of union. There were 12,584 saving and loan societies, 2,128 cooperative purchasing societies, 1,960 dairy societies, and approximately 1,591 societies devoted to various other objects. The reports for these different groups are rendered separately.

A summary of the operations for the fiscal year 1907 is given as follows, representing 11,669 saving and loan societies of the Imperial Organization, with a total individual membership of 1,059,348. The statistics for the full number of 12,584 local saving and loan societies are unavailable at the present time.

Total assets	$373,204,209
Total liabilities	371,354,198
Loans to members on current account	88,263,070
Loans to members for definite period	213,197,062
Deposits of members who receive loans	38,204,596
Credit balance due to members end of 1907	4,581,256
Total receipts and expenses	852,178,530
Cost of administration	1,411,039
Total deposits of savings	98,551,891

GROUPS AND REPORT OF GENERAL UNION.

The annual report of the General Agricultural Organization, made October, 1909, shows it to have a membership of 5,172 local societies. Of this total number 4,398 were saving and loan societies, the other groups being devoted to various purposes corresponding to the classification found in the Imperial Organization. On comparing the saving and loan societies of this organization one may observe not only that it has a smaller membership, but that its different items representing the business of the local societies are smaller per person compared with the Imperial Organization. The latest available statistics of this group are for the year 1907; at that date there were

4,100 local societies having a membership of 405,819 persons. The following data is given in this report:

Total assets	$116,794,891
Total liabilities	116,437,787
Outstanding loans and credits	71,940,027
Outstanding loans to members in 1907	17,008,451
Credit of members	4,355,538
Savings deposits end of 1907	92,832,598
Reserve fund end 1907	3,260,239
Business credit of members end 1907, participation in business	862,760
Total business receipts and expenditures	239,957,346

The following statistics represent the new business transacted by the savings and loan societies of the General Agricultural Organization for the year stated above:

Loans and money paid out for purchases	$19,939,861
Paid out to members in course of year	23,111,170
Paid in by members	19,228,647
Repayments on loans	12,664,855
Savings paid in	34,794,357
Costs of administration	701,874

The statistics given above are for the saving-loan groups of the two large German agricultural organizations. The fee for admission as a member to either of these groups is a nominal one. An applicant for membership in the General Organization is required to pay $2.38; in the Imperial Organization the fee is a trifle more. The conditions for admission to the other groups, such as the cooperative purchasing or dairy associations, are prescribed by the by-laws of the particular association. Some of these groups require an annual membership fee to be paid by each member; the larger number, however, make no provision for any annual fee, although each individual must purchase at least one share of stock on becoming a member. On leaving the local society the value of this share is repaid to the purchaser.

BUYING THROUGH COOPERATION.

The Cooperative Purchasing Society is the second in number and in importance of any group of the Imperial Organization. There were on May 15, 1909, 2,128 local societies, having an average membership of 106 persons in each society. The annual report of 1907 gives the latest data of the business done by this group of the Imperial Organization. At this date there were 27 circuit unions, composed of 1,983 local societies, with a total membership of 216,674 persons.

Assets	$13,091,544
Liabilities	12,779,966
Reserve fund	1,135,743
Credit balance of members end of 1907	698,057
Value of merchandise purchased	22,468,776
Costs of administration	600,543

The value of the goods purchased during the year 1907 exceeded by approximately $4,284,000 the purchases of the previous year. The average purchase per person during six consecutive years, beginning in the year 1902, is as follows: $58.80, $60.93, $64.02, $88.06, $94.72, $104, respectively. The principal articles making up this amount in the following order of value were fertilizers, feed stuffs, seed, coal, and agricultural machinery. The working capital of the cooperative purchasing societies for this period was, during the year 1906,

$10,658,704, approximately 62 per cent of the value of purchases made for the members; and for the year 1907, $12,779,966, or about 60 per cent of the value of the purchases made. The surplus shown in the report given amounts to $4.28 per member. It will be observed that the cost of administration is less than the favorable balance shown by the surplus and is approximately $3.09 for each member.

DAIRY AND OTHER INTERESTS.

In distinction to the purpose of the group of cooperative purchasing societies, the object of the dairy societies, which come next in importance, is chiefly to sell dairy products. The following data are given which represent the business done by 1,719 local dairy societies during the year 1907:

Membership	178,132
Assets	$19,248,601
Liabilities	18,224,550
Reserve fund and working capital	3,252,277
Credit balance of members end of 1907	1,604,907

Some idea of the amount of the products sold by members of this group of the Imperial Organization may be obtained from the following statistics:

Total value of dairy products sold	$46,385,649
Total amount paid for milk	38,100,150
Costs of administration	4,223,949

The groups of the Imperial Agricultural Organization which do not belong to one of the three above-named divisions—that is, to either the savings and loan group, the cooperative purchasing group, or the dairy societies group—are all classed together, since the reports do not give separate statistics for each of the smaller divisions. Taken together they number 1,591 local societies. They embrace groups having to do with the purchase and sale of distilled spirits (mostly spirits distilled from potatoes), of which there are 121 local societies, and 17 devoted to the production of starch and the sale of starch products; also societies organized for the cultivation and conservation of fruit and vegetables, and 69 organized for handling eggs and poultry. Further, there were 130 grape and wine growers' societies, 100 societies of cattle and stock raisers, and a number interested in the cultivation of beets and the manufacture of beet sugar.

BROAD FIELD OF EFFORT.

The function of the great organizations described above is much broader than merely for the purpose of collective bargaining in the sale of farm products, etc., for in each division there are scientific experts who, upon application and upon the payment of a fee, visit the farms of the different members and advise with them concerning the cultivation of their growing crops and the care of their live stock. For instance, an expert forester investigates the forests of the members, another examines the growing potato field or the dairy. If anything needs correcting, these experts suggest the proper remedy. Furthermore, if a particular field does not produce as it should, a sample of the soil may be sent to the laboratories of the organization, where it is tested and the member is informed how he should properly fertilize the field.

Among the number of smaller unclassified groups there are, in addition to the groups mentioned above, 155 societies organized

exclusively for the purpose of purchasing farm machinery. These 155 societies had a total membership of 3,171 persons. A summary of their annual business, found in the report of the year 1907, may be of interest.

Assets	$440,508
Liabilities	437,805
Reserve fund and working capital	17,330
Credit balance of members end of 1907	77,726
Total business	468,274
Cost of administration	51,915

LOCAL SOCIETIES—COMMUNITY USE OF MACHINERY.

Aside from the saving and loan group, which is by far the most numerous of any of the groups of the General Agricultural Organizations, there are 778 local societies cooperating in purchasing and selling agricultural products. This number is divided essentially into the same groups as is the Imperial Organization. In this organization, however, the dairy societies are second in number, cattle and stock raising societies third, and the cooperative purchasing societies fourth. Their business fills identically the same place among their local societies as does the business of the Imperial Organization. In one particular, however, it goes further. Among a number of the local societies in the small villages, agricultural machinery is owned by the society for the general use of the different members. The common use of such machinery has proved of great assistance to the members, particularly of such implements or machinery as grain cleaners, thrashers, etc., which are too expensive for one man and which are used only during a short season of each year. Of the 778 different cooperative societies, embracing all the societies except those organized for loans and savings, there are available statistics for the 707 local societies organized before the close of the year 1908. Three hundred and five, or nearly one-half of this number, are dairy societies. Among the other groups, 60 were organized for the production and sale of spirits distilled from potatoes, 52 wine and grape growers' societies, 63 thrashing societies, 42 consumers, and the remaining number various other groups of relatively small importance.

EXTENSIVE BUSINESS—HAPPY RESULTS.

In the year 1907 the business done by the different groups of the General Agricultural Organization amounted to $16,073,567. For the succeeding year the amount was $17,197,623, an increase of approximately $1,125,056. The separate statistics giving the business of the 305 dairy societies belonging to this organization are not available. Some comparison may be made, however, between the separate local societies of the Imperial and the General Organizations. The average working capital of each of the local societies of the General Organization was $3,536, that of the Imperial Organization being $10,465. If this comparison be extended to that of the individual members, the working capital per person in the General Organization dairy societies was $43.31, that of the Imperial being $101.62. The estimated value of the property for each society in the General Organization was $2,814, that of the wealthier competitor was $6,729 for each member.

Besides the Imperial and General Agricultural Organizations dealt with in this report, there are also two other organizations known as

the "Deutsche Landwirtschaft Gesellschaft" and the "Bund der Landwirte." The former is an important society for the technical advancement of agriculture in Germany, and the latter a powerful body for the protection of the political interests of the German farmer.

An eminent German economist recently stated that the significance of the agricultural unions in Germany lies in their successful advocation of honest business dealing, in their insistence on cash payments and on economy in operating expenses, in their struggle against usury and deception, in the business and moral training which they give to the lower and middle classes, and in the happy combination of progressive principles and brotherly feeling which they stimulate.

FRANCE.

CHARACTER OF ORGANIZATION—EXTENT OF THEIR PURCHASES.

Consular Assistant Dean B. Mason, of Paris, reviews the organization and purchasing operations of the French agricultural associations:

A most conservative estimate of the space devoted in the directories of the French and Algerian agricultural associations shows that there are over 5,000 individual societies. Numerous associations exist in each Department of France, and they are grouped in the directory according to the Department in which located. The most important purchases of the French agricultural societies are fertilizers and seed, their purchases of manufactured goods being comparatively insignificant. The annual value of the agricultural implements purchased by the different associations is, with a few exceptions, indicated in the directory, and varies as a general rule between $60 and $200.

There are two important unions which include in their membership a great number of the French agricultural syndicates and societies: The Union Centrale des Syndicats des Agriculteurs de France, whose offices are located at No. 8 rue d'Athènes, Paris, and the Syndicat Central des Agriculteurs de France, at 42 Rue du Louvre, Paris. Both these unions purchase for their members large amounts of agricultural supplies. The treasurer of the Syndicat Central des Agriculteurs de France states that the union purchases annually over $200,000 worth of agricultural implements.

Part of the agricultural implements purchased are of American origin, but all of the purchases of the union are made in France. American agricultural implements in France are ably represented by the representatives of certain American manufacturing companies, as for instance, the agents of the McCormick Harvester Company, 168 Boulevard de la Villette, Paris, and the Johnston Harvester Company, 148 Boulevard de la Villette, Paris, who are prepared to fill orders promptly from their stock in hand.

A considerable amount of American agricultural machinery is sold in France by French dealers, acting as agents for American companies, or importing on their own account, and there are two syndicates of dealers in agricultural implements at Paris, the Chambre Syndicale des Instruments d'Agriculture, No. 10 rue de Lancry,

and the Chambre Syndicale des Négociants et Importateurs de Machines Agricoles, No. 163 rue St. Honoré.

RAPID EXTENSION DURING PAST TWENTY-FIVE YEARS.

During the last twenty-five years an extensive movement toward the organization and coordination of agricultural interests has taken place in France. Agricultural societies have existed in France since the middle of the eighteenth century, but their rapid extension and development have taken place since the passage of a law in 1884, permitting the creation of industrial or agricultural syndicates by persons of the same or similar professions without special authorization of the Government. Certain formalities as to registration and publicity being complied with, considerable liberty is allowed the professional syndicates, and while there are various other forms of agricultural organizations the syndicate is the most general and most important.

The principal aim of the agricultural syndicate is to enable the small farmer to purchase or dispose of his supplies as advantageously as his more important competitors and to encourage a number of social movements toward the betterment of the rural population, such as the establishment of insurance or credit societies. For a small commission, never exceeding 3 per cent, they sell, purchase, or exchange the products and supplies of their members.

The agricultural syndicate is not taxed like a business enterprise and is authorized by law to act only as an agent of its members. However, a few syndicates maintain a considerable stock of supplies. Such a practice some claim to be contrary to the spirit of the law of 1884 and to give the syndicatist an undue advantage over other sellers. It is claimed by the representatives of the syndicates that they have materially helped their members to sell or buy advantageously, and have protected them from imposition. In so far as the purchase of fertilizers and seeds is concerned, it would appear that these claims are fully justified. It is doubtful whether the syndicates are equally well prepared to control the sale of agricultural implements, as the important manufacturers have their own powerful selling organizations, with traveling salesmen and skilled mechanics who canvass the country far more effectively than the syndicates. As a matter of fact the syndicates have not so far succeeded in controlling the trade in agricultural implements.

UNION CENTRALE DES AGRICULTEURS DE FRANCE.

Two important unions, the Union Centrale des Agriculteurs de France and the Syndicat Central des Agriculteurs de France, have become important factors in the development and usefulness of the numerous associations or syndicates included within their membership.

Some 1,300 agricultural syndicates having 500,000 members have joined the Union Centrale des Syndicats des Agriculteurs de France. The union does not restrain the independence or initiative of the societies included within its membership, but furnishes advice or assistance at the request of its members, and in matters of importance where collective effort or influence is necessary, the union has proved

an efficient representative of agricultural interests. The Union Centrale corresponds with its affiliated syndicates, which it keeps informed as to the activities of other French syndicates, and for which it carries on investigations of practical utility. It publishes an agricultural review containing a large amount of useful matter, and it holds a general conference of all its members every two years. This general conference is preceded by a series of meetings of the presidents or special delegates of the affiliated associations, in which matters of special interest are discussed, and these meetings have proved useful in rendering the associations mutually helpful and in investigating matters of special interest. Methods of agricultural production, mutual assistance, insurance, the social development and welfare of the agricultural population, and matters requiring special legislation are discussed or studied.

The Union Centrale possesses different bureaus qualified to investigate and to make effective efforts to represent the wishes of the affiliated syndicates. Numerous concessions as to the rates charged by railroads on raw materials have been obtained by demonstrating a sufficient prospective increase of traffic in agricultural products or fertilizers to warrant a decrease in the rate charged. The union, as the representative of 1,300 agricultural syndicates, with 500,000 members, exerts a considerable influence on legislation, fiscal measures, and customs regulations affecting agricultural interests. The lawyers of the union investigate gratuitously the complaints of any affiliated association as to administrative abuses or incorrect interpretation of the law. The union not only aims to unite the numerous French syndicates, but it has also led to the creation of a large number, by stimulating local initiative, by furnishing model statutes, and by helping to overcome the difficulties of organization. The union has founded a cooperative society for the purchase of supplies ordered by its members and for the sale of their agricultural products. There is no obligation on the part of the associations belonging to the union to purchase their supplies through the cooperative society, but owing to the superior facilities of an important organization for the sale or purchase of supplies, the transactions made through this agency are considerable.

SYNDICAT CENTRAL DES AGRICULTEURS DE FRANCE.

The Syndicat Central des Agriculteurs de France, with 14,000 members, was founded in 1884, two years before the Union Centrale des Syndicats. The objects pursued by this organization, although somewhat more restricted, are similar to those of the larger union. It publishes a semimonthly review, furnishes expert opinions to its members on agricultural matters, maintains an employment bureau, and has a competent buying and selling department. It has exercised a salutary influence in preventing combinations of manufacturers or dealers from raising unnecessarily the prices on articles purchased by agriculturists. The buying department of this organization, owing to the importance of its transactions and good business connections, has been successful in preventing impositions upon

its members by unscrupulous dealers in fertilizers and seeds. Information on all subjects in which agriculturists are likely to be interested, whether legal, business, or technical, can be obtained from the syndicate by its members, either gratuitously or at a moderate expense. The cost of membership is $1.50 per year, and a commission is charged, which in no case exceeds 3 per cent, on sales or purchases made by the syndicate.

There are various other agricultural unions of less importance, as, for instance, the Syndicat National Agricole, with 6,500 members; the Fédération Nationale des Syndicats Horticoles de France, the Syndicat National de Défense de la Viticulture Française, etc.

INFLUENCE OF ORGANIZATIONS ON INDUSTRY.

While the legal status and prerogatives of the French argicultural associations are defined, and to some extent limited, by legislative enactment, they have no official character, and are the natural outcome of the manifest advantages of organization and cooperation on the part of agriculturists. Their influence, scope, and importance have extended rapidly since their inception and they have been an important factor in the present prosperous condition of French agriculture.

During the last twenty years superior methods of cultivation and the thrift and industry of the French rural population have led to a considerable increase in agricultural production, in spite of the fact that there has been no material increase in population. The French Government has contributed largely to this prosperous condition through services rendered by the Department of Agriculture, by education, by experiment, etc., and by the loan of considerable sums at a low rate of interest to agriculturists. The yearly loan of the State, through the local banks, has risen in the last eight years from $118,116 to $7,913,000. Up to the present some $66,106,000 has been loaned to 125,000 cultivators. The increased protection afforded agricultural products by the tariff of 1892 has materially stimulated production, particularly the raising of wheat and cattle. It had been the policy of the French Government to protect and assist agricultural interests prior to the formation of the agricultural syndicates, but it is likely that these syndicates, by organizing and uniting agricultural interests, have been a material factor in obtaining helpful and effective legislation and government support during the last twenty years.

A similar tendency toward the organization of agricultural interests is manifested to a more or less important degree in the more highly developed European States, and in Denmark—where such organization has reached the greatest degree of perfection—the results obtained have been so favorable that it is considered as an example for the rest of Europe.

The directory of the French agricultural associations can be purchased from the publisher, Ch. Amat, No. 11 rue Cassette, Paris, for 10 francs, or $2. [A copy of the book may be consulted at the Bureau of Manufactures.]

ENGLAND.

SOCIETIES FORMED ON DANISH PLAN—THE MIDLANDS ASSOCIATION.

The benefit reported to be derived by farmers from their cooperative societies in Continental countries, especially Denmark, has stimulated the formation of like societies in the United Kingdom. Consul Frank W. Mahin, of Nottingham, says that many are now in operation, one of which he describes:

The Midland Farmers' Cooperative Association was formed in 1906. It now has 401 members, covers the counties of Nottingham, Derby, and Leicester, and is extending its operations into Lincolnshire. There are larger farmers' societies in the country, one in Wales having 900 and one in Suffolk and vicinity 1,000 members. All are growing in membership and seem to be of substantial advantage to the farmers concerned.

The Midland association, through its general office in Nottingham, disposes of the products of its members' farms, excepting the live stock. For instance, a member sends samples of his grain to the office. Officials keep themselves informed as to the best markets and sell to the highest offer, by means of the samples. Similar methods are used with other products. A small commission is charged by the general office for its service, which charge is believed to be less than the gain to the farmer by dealing through the well-informed intermediary. The manager of the association personally attends the grain and cattle markets held on stated days in the district, and thus is always fully acquainted with prices and conditions.

Through the general office the member buys supplies for his farm—machinery, fertilizers, seeds, cakes for stock food, oil, coal, etc.; not, however, groceries or other family commodities. The office issues a monthly price list, for members only, giving the cost of the various articles delivered or at seaports. In the latter case the freight charges from the seaports to the principal towns in the district are stated. All the prices are said to be less than the member would be charged if he individually bought the supplies. In addition, the member is assured that his purchases will always be of the best quality and character. Articles bought are sent by the seller directly to the farmer. Any complaint or dissatisfaction is dealt with and the cause removed, if possible, by a committee of the association. Members are not required to buy through the association.

The monthly price list contains, besides the cost of supplies, suggestions and information regarding the best farming devices and methods and probable changes in prices and trade conditions. The annual cash business of the association is now about $125,000, and has steadily increased each year. The expenses are about 3 per cent of that amount. The income from commissions and other sources paid 5 per cent dividend to the shareholders in 1909, a fair interest for each member's investment, leaving as clear profit all that he gains by dealing through the association.

The present paid-up capital of the association is $2,500. Each share costs 5 shillings ($1.21), paid by installments, as required. Every member must hold one share, and no more, for each 10 acres which he occupies, subject to the proviso that he must hold not less than 4 shares.

SUGAR INDUSTRY.

CANADA.

YIELD OF THE THREE FACTORIES IN OPERATION LAST YEAR.

Consul-General James W. Ragsdale, of Halifax, furnishes the following official statistics covering the beet-sugar industry of Canada:

The following statement shows the acreage under beets, the quantity of beets delivered at the mills, and the quantity of sugar produced in Canadian factories during the past year:

Factories.	Acreage.	Beet production.	Sugar production.
		Tons.	*Pounds.*
Wallaceburg, Ontario	6,600	49,250	12,684,412
Berlin, Ontario	2,200	13,383	3,511,692
Raymond, Alberta	2,300	12,423	3,515,697
Total	11,100	75,056	19,711,801

For the 49,250 tons of beets delivered at the Wallaceburg factory the farmers were paid $289,294, or $5.89 per ton.

The Wallaceburg factory has given the fullest measure of satisfaction to the growers of beets, although the yield of sugar, 12.88 per cent, was somewhat lower than at either of the other factories. The roots were an average yield of 7.46 tons, and the average value was $43.83 per acre, as compared with 6.09 tons and $35 per acre at Berlin and 5.4 tons and $27.07 per acre in Alberta. In the United States in 1908 the average extraction of sugar was 12.47 per cent—the State of Michigan leading with 13.95 per cent.

DOMINICAN REPUBLIC.

LARGE SUGAR OUTPUT IN THE MACORIS DISTRICT.

The following statistics covering the sugar output of the Dominican Republic are furnished by Consul-General Horace G. Knowles, of Santo Domingo:

The total production of sugar this season in the six estates in the Macoris district is conservatively estimated at 500,000 bags of 320 pounds each, which is 70,000 bags more than last year and 120,000 more than the average for the last five years. This large output is of much significance because of the prevailing high price of raw sugar. The price now in England is $4.80 per 100 pounds, compared with $4.05 last year, and $4.45 in the United States, compared with $3.70 last year. Owing to the higher price in England, nearly all of this year's crop is being shipped thereto, and the value of the crop when marketed there will amount to $7,680,000, which represents about 60 per cent of the $12,500,000 estimated to be invested in the six sugar properties at Macoris. It is said that the present high price of sugar is due to the partial failure of the European sugar-beet crop.

The climate, rain precipitation, and soil of the southeastern section of the Dominican Republic are said to make that section the best in the world for the cultivation of sugar cane and the production of raw sugar. The owners of the properties at Macoris are now install-

ing more modern machinery in their mills, not only to increase the output, but to decrease the cost of production.

The six estates in that district are owned by stock companies incorporated in the United States, although some of the largest stockholders do not reside therein.

BRITISH GUIANA.

EXTENT AND COST OF PRODUCTION—DOMESTIC CONSUMPTION.

Consul Arthur J. Clare, of Georgetown, furnishes the following report on the cultivation of rice and sugar in British Guiana:

The area under rice cultivation in British Guiana in 1909 was officially estimated at 38,000 acres, against 16,670 acres for the fiscal year 1903–4 and 29,915 for the year 1907–8. Official figures for the fiscal year 1908–9 show that the production of rice was 84,851,200 pounds, of which 8,300,677 pounds were exported and 76,550,523 pounds consumed locally. The production per acre of the first and second crops is practically the same.

Taking the population of British Guiana as 304,089 the per capita consumption of locally grown rice is estimated to be 251 pounds. The amount of rice imported last year was only 301,680 pounds. Roughly speaking twice as much rice is consumed as flour, and only one bag of rice is exported out of ten produced locally. The number of pounds of rice available for export during the calendar year 1909 was 10,594,851, and that available to March 2, 1910, 2,660,284 pounds. From an authoritative source it is learned that the cost of producing one acre of rice is $27; including $5 rent on lands that have been previously cultivated with this cereal.

The area under sugar cultivation for the fiscal year ended March 31, 1909, was 71,310 acres. The amount available for export for the calendar year 1909 was 115,633 long tons, and to March 2, 1910, 17,997 tons. The indications are that this year's crop will equal or exceed that of 1909. On the best equipped and most favorably situated plantations the cost of production per acre of sugar is stated to be $57.60.

NATAL.

A FIELD FOR AMERICAN MACHINERY, IMPLEMENTS, AND TOOLS.

The following information, concerning the cultivation of sugar cane and the establishment of sugar mills and refineries in Natal, is furnished by Consul Edwin S. Cunningham, of Durban:

There is no industry in this colony that has developed as rapidly as that of sugar-cane planting, the increase in its production having trebled in the last three years, and there is no likelihood of any cessation in this development until the output is well over 100,000 tons per annum, or enough to supply all South African requirements. Sugar mills, in increasing proportion, have been established, and others will be established to meet the increasing demands.

One of the largest up-to-date mills in the colony began operations last year at Amatikulu, but on account of the development in the production of cane in that and the Umhlatusi district other mills became necessary, and the representative of an Umhlatusi firm, during

a recent visit to Europe, contracted for the erection of a mill, as well as a refinery, the second refinery in the colony, at a total outlay, according to the newspapers, of $800,000.

If American manufacturers are able to supply sugar-mill machinery, plantation implements, tools, and sugar-cultivating machines in competition with Scotch and English manufacturers, and trucks, light rails, and equipments for conveying cane from the field to the mill, with German manufacturers, they are neglecting a market, which they might secure by studying the demands of Natal and Zululand. It is a promising field at present, and its future growth is well assured, the production of sugar in 1909 amounting to 63,000 tons as compared with 23,000 tons in 1906. It is practically useless, however, to endeavor to get up an interest by correspondence alone, but with a personal representative to visit the various plantations, mills, and refineries for the purpose of studying the needs of these plants, and their manner of operating, a basis might be laid for a satisfactory business for some time to come. One large Scotch manufacturer of sugar machinery sends at frequent intervals a representative who visits the various mills for the purpose of introducing his machinery, and, incidentally, of impressing upon them the necessity for the equipment of an up-to-date plant. The mills and plantations are quick to accept such suggestions as seem good, economical investments, and, as a result, the representative returns with a good list of orders.

I am just in receipt of information that the branch office of an American house in Johannesburg is about to make an active campaign to secure orders for the supply of small rails to the sugar planters of Natal.

[The addresses of business houses in Durban which might take up the question of handling American machinery, railway equipments, and tools, transmitted by Consul Cunningham, are on file in the Bureau of Manufactures.]

RUSSIA.

SUGAR PRODUCTION AND REGULATION OF PRICES IN THE EMPIRE.

Ambassador W. W. Rockhill, at St. Petersburg, reports as follows concerning proposed modifications in the laws governing the sugar industry of Russia:

The substance of the present regulations is as follows: For each factory season—year ending September 1—the quantity of sugar to be released for sale on the home market is definitely fixed by the Council of Ministers on the basis of the yearly home consumption, the quantity to be released being distributed among the sugar works. The Council also fixes a norm price. Should there be a rise in the selling price indicating an excess of demand over supply, the Minister of Finance authorizes supplementary issues of sugar.

The excise duty on sugar is 1.75 rubles per pood (77.3 cents per 36.1 pounds). The excise is refunded on sugar exported. In 1908, the latest year for which actual returns are available, the sugar revenues, $48,210,695, constituted about 4 per cent on the ordinary receipts of the Empire, 2,417,808,000 rubles ($1,245,171,120), and about 34 per cent of the customs revenues.

The Minister of Finance has for several years been endeavoring to find some means of preventing the boosting of sugar prices by specu-

lators, and to control these manipulators he elaborated and submitted to the Duma a proposal which, according to the following translation from Ryetch, has been passed by that body and is reasonably certain to pass the Council of the Empire, and thus become law in the near future. The project as amended and adopted by the Duma may be summarized as follows:

Should the price of sugar at St. Petersburg, Moscow, Odessa, Kieff, Warsaw, and Kharkoff exceed by 20 kopeks (10.3 cents) or more, the norm fixed by the Council of Ministers, that Council will be authorized to discontinue temporarily the refund of excise duties when sugar is sent abroad, and to lower the customs duties to such an extent that imported sugar, after allowing for customs duty and transportation charges (reckoned by the Finance Ministry at 30 kopeks (15.5 cents) per pood), may be sold in the home markets at a price no greater than the norm established. These measures can be put into effect one week after notice published in the Official Messenger, and the law is to remain in force till September 1, 1912.

[Accompanying Ambassador Rockhill's report was a translated copy of the memorandum presented by the Minister of Finance to the Duma, showing the impossibility of controlling the sugar speculators under the old regulations, which is on file in the Bureau of Manufactures.]

WORLD HOP TRADE.

GERMANY.

BREWERS NOT FAVORABLE TO AMERICAN HOPS.

Despite the extraordinary deficit in the world's hop crop of 1909, Consul-General Robert P. Skinner, of Hamburg, says it seems improbable that a demand for American hops can be found in Germany under present conditions, which he reviews:

In former years, when there were shortages in Germany, supplies of California hops were imported quite largely, but the complaint followed that the resulting beer was too bitter, and of late years importations have entirely ceased. It appears, also, that all the brewers in Germany have covered their entire requirements until the end of September of this year and that, in spite of the German shortage, the accumulated stocks of inferior hops of 1909 are even now being exported to England. It is possible that if American hop growers had put forth active efforts in Germany in October and November of 1909, they might have done some business, and there is still business to be done in England, where the shortage is scarcely less than in this country.

The situation invites the careful and immediate attention of scientific agricultural bodies in the United States. It is entirely unlikely that so strong a German prejudice against American hops would exist without some reasonable foundation, and this being so, the planting of proper seed and the study of soils should enable American farmers to overcome the difficulty which is now such as to limit exportations of hops from the United States to Great Britain and other non-European countries where brewing is rather less of a fine art than in Germany. The matter is one of particular importance at this time as recently the German duty on American hops was reduced from $16.60 to the minimum rate of $4.76 per 220 pounds.

Bohemian hops alone are imported in considerable quantities, as the following German import statistics show:

Country.	1908.	1909.	Country.	1908.	1909.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Austria-Hungary	2,764	3,004	All others	2.1	18
Belgium	.9	240			
Russia	19	198	Total	2,791	3,636
Great Britain	5	176			

In the large German breweries, Bavarian and Bohemian hops are almost exclusively employed. Hops from Wurttemberg and Baden are absorbed chiefly in southern Germany. French, Belgian, and English hops fall under the same ban against American hops, the German brewers professing their inability to make first-class beer with anything except Bavarian and Bohemian hops.

PRICE FLUCTUATIONS.

The producer who raises 5,000 pounds of hops is considered, in Bavaria, to be a large grower. As a rule, farmers raise 1,000 to 2,000 pounds. Dealers buy from growers, assort their purchases, and undertake to resell in large quantities of uniform grades. The business seems to be subject to considerable hazard and speculation. At the beginning of 1909 there were large accumulated stocks on hand, and, as it seemed evident that they could be sold favorably only if the crop of 1909 proved a failure, prices dropped from 10 to 15 marks per 50 kilos ($2.38 to $3.57 per 110 pounds), and some poor qualities were offered for as little as 5 marks ($1.19). Still, purchasers could not be found, as brewers were well provided, and the hops thus offered were mainly poor. In July, 1909, it was seen that the new crop would be bad and prices rose rapidly to 80 and 100 marks ($19.04 and $23.80), carrying with them to the point of salability old crops of so low a grade that they had gone begging previously. However, many of these inferior shipments were made to England, as German buyers were dissatisfied with the qualities offered. Large quantities of the crop of 1908 remain unsold to this date.

For the new crop of 1909, undried brought 150 to 170 marks per 50 kilos ($35.70 to $40.46 per 110 pounds) in the beginning of the season and soared to 240 and 260 marks ($57.12 and $61.88). The cold summer of 1909 had prevented plant development, and later in the season a plague of insects, chiefly lice, found the crop too weak to resist their onslaughts. In a certain region of Bavaria which produced 6,000 tons in 1908, only 400 tons were gathered in 1909.

ACREAGES AND YIELD.

Prior to the bad year of 1909 low prices had discouraged farmers, who reduced their acreage by about 15 per cent in Germany and Austria, as compared with 1908. In Bavaria the acreage which was 62,730 acres in 1905, was only 46,045 acres in 1909. In the German Empire, as a whole, the acreage in hops fell from 91,191 acres in 1905 to 66,696 acres in 1909.

In Austria-Hungary the situation was rather better, although even there the crop of 1909 was only 8,500 tons, against 18,000 tons in 1908. In Belgium, France, and England the crops of 1909 were bad

also, so that the total production in the year named was less than in thirty years, the deficit amounting to 50,000 tons, and the average prices of the first-class products running 25 to 30 per cent higher for the crop of 1909 than for 1908. The world's hop crops are estimated as follows:

	1908.	1909.		1908.	1909.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Bavaria	14,500	4,500	France	3,500	1,250
Wurttemberg	4,100	750	Russia	3,250	3,000
Baden	1,750	300			
Alsace	5,500	1,000	Total, Europe	56,100	21,450
Prussia	1,000	400			
			England	23,500	10,500
Total, Germany	26,850	6,950	North America	17,500	16,000
			Australia	750	750
Austria-Hungary	18,000	8,500			
Belgium	4,500	1,750	Total, world	97,850	48,700

Commission dealers in hops build up their brewery trade in Germany with difficulty, and they succeed only by making deliveries of identical grades from year to year. They are, therefore, slow to interest themselves in foreign hops, and particularly if previous experiments have not been entirely satisfactory. Addresses of certain Hamburg importers and dealers are forwarded for direct correspondence. [Names may be secured from the Bureau of Manufactures.]

AUSTRIA.

SPECIAL PROTECTION FOR THE SAAZ, AUSCHA, AND DAUBA PRODUCT.

In answer to an inquiry, Consul J. I. Brittain furnishes the advanced statistics covering the hops and hop trade of Austria-Hungary during the past year.

It is said that the finest quality of hops produced in Europe are grown in Bohemia, viz, Saaz, Auscha, and Dauba, respectively. In order to protect the two first named of these from fraudulent imitations, there is a special law which authorizes the official inspection and sealing of each package of hops therefrom, the cost of which is about 51 cents per 220 pounds. In order to prevent frauds the Bohemian hop producers are endeavoring to procure the enactment of an inspection and sealing law, which will apply to all hops produced in Bohemia, as well as those from Saaz and Auscha. The exports of Bohemian hops to the United States from Prague in 1908 amounted to $235,035, and from Carlsbad, $257,236, total $492,271, against $414,805 from Prague, and $272,032 from Carlsbad, a total of $686,837 in 1909. While the value was greater in 1909 the quantity was less than in 1908.

Owing to the failure of the crop in 1909 the prices were very high. During the hop season in 1908, September, October, November, and December, the average price was $18.07, $16.24, $14, and $11.17, respectively, and in 1909, $40.60, $48.72, $50.34, and $48.51 for the same months. At times choice Saaz hops sold in 1909 at $60 and even $70 per 100 pounds.

The following statement shows the acreage planted and the yield of hops in Austria-Hungary in 1908 and 1909:

District.	1908.			1909.		
	Total acreage.	Yield per acre.	Total yield.	Total acreage.	Yield per acre.	Total yield.
		Pounds.	*Pounds.*		*Pounds.*	*Pounds.*
Bohemia	41,372	771	31,900,000	38,029	290.9	11,066,000
All other Austria	21,252	439.4	9,338,120	17,907	424.4	7,600,780
Hungary	2,850	702.1	2,001,120	2,718	728.5	1,980,000
Total	65,474	660.4	43,239,240	58,654	352	20,646,780

FRANCE.

STATISTICS OF PRODUCTION COLLATED BY THE GOVERNMENT.

Consul-General Frank H. Mason, of Paris, has secured the following advance statistics of the hop production in France in 1908:

Department.	Hectares.[a]	Quintals.[b]	Value.	Average price per quintal.
			Francs.[c]	*Francs.*[c]
Aisne	50	550	64,900	118
Aude	6	48	11,520	240
Cotes d'Or	1,000	13,500	945,000	70
Haute Marne	120	2,220	100,000	50
Meurthe et Moselle	710	12,780	894,600	70
Nord	1,100	22,000	1,320,000	60
Pas de Calais	10	400	8,000	200
Haute Saone	20	200	12,000	60
Saone and Loire	10	155	16,550	110
Vosges	10	100	10,000	100
Total	3,036	51,953	2,953,570	65.78

[a] Hectare=2.47 acres. [b] Quintal=100 kilos or 220 pounds. [c] Franc=19.3 cents.

These figures were copied from the proof sheets of the official volume now in press. No statistics or definite information of any kind concerning the crop of 1909 can be obtained, as the definite returns are not yet in.

UNITED STATES.

EXPORTS AT LOW PRICES, IMPORTS AT HIGH COST.

The exports of hops from the United States for the ten months ended April 30, 1910, compared with the same periods of the two preceding years, were as follows:

Exported to—	1908.		1909.		1910.	
	Pounds.	*Value.*	*Pounds.*	*Value.*	*Pounds.*	*Value.*
United Kingdom	20,075,603	$2,708,781	8,902,763	$1,081,595	8,989,336	$1,717,468
Other Europe	31,899	3,300	.....	.....	20,474	4,290
Other countries	1,052,674	134,391	1,157,499	148,936	923,215	205,370
Total	21,160,176	2,846,472	10,060,262	1,230,531	9,933,025	1,927,128

It will be seen from the foregoing that the average value of the exports in the 1908 period was 13½ cents per pound, in the 1909 period 12¼ cents, and this season nearly 20 cents.

The imports of hops into the United States during the ten months ended April 30, 1908, were 8,211,535 pounds, the average value of

which was 23½ cents, in the 1909 period 6,923,655 pounds, with an average value of slightly under 20 cents, and for the ten months ended April 30, 1910, 3,057,041 pounds, with an average value of nearly 47 cents per pound. The imports are nearly all from Germany and Austria-Hungary. The import duty is now 16 cents per pound.

GRAIN MARKETS.

AUSTRALIA.

BAGS FOR HANDLING CROP WILL COST NEARLY ONE MILLION DOLLARS.

Consul John F. Jewell, of Melbourne, writing on the marketing of wheat in Australia, says that the royal commission appointed to investigate that question has submitted its final report, from which the following is taken.

Referring to the cost of sea carriage, the commission says:

The fact that it costs South Australia 15 cents per bushel to get her grain borne by sea to Europe, against 8 cents for Argentina, 3½ cents for Canada, and 2 cents for Atlantic ports of the United States, shows how desirable it is, notwithstanding how relatively low inland transportation is, to effect every saving possible in the handling and carriage of wheat after it has left the farm. Even if the sea journey were shorter and the cost thereof correspondingly cheaper, the instincts of business efficiency prompt the adoption, in the public interests, of any system likely to insure economy in the process which separates producer from consumer.

The heavy cost of bags to Australian wheat growers is shown by the evidence submitted to the commission. It is estimated that in Victoria the loss to farmers through the use of bags is £50,000 ($243,325) for a 20,000,000 bushel harvest. On the estimated crop of 80,000,000 bushels for the Commonwealth the aggregate loss to Australian wheat growers in bagging the crop will be £200,000 ($973,300). After a careful review of the evidence the commission did not see its way clear to recommend a full installation of bulk-handling methods. It advised that a small equipment should be provided at the outer harbor to facilitate experimental shipments by the Government and private exporters. This, it is stated, would familiarize those interested with the advantages of the system and prepare the way for its gradual extension or its complete adoption, as might seem advisable.

UNITED KINGDOM.

RULES GOVERNING THE SALES OF WHEAT IN GREAT BRITAIN.

In submitting the following report Consul Horace Lee Washington, of Liverpool, says that the information was obtained from the most reliable sources available:

Wheat is generally purchased by merchants in England on the c. i. f. basis, at so much per quarter, the quarter varying in weight with the different importing countries as follows: American wheat, grown east of the Rockies, 480 pounds; grown on Pacific slope, 500 pounds; Indian and Russian, 492 pounds; Argentine and Australian, 480 pounds.

Wheat is usually sold to dealers and consumers on delivered terms, but the basis varies as before, according to the market, viz: Liverpool, cental, 100 pounds; Glasgow, boll, 280 pounds; Hull, quar-

ter, 480 pounds. It also varies in the smaller towns, each district having its own basis.

BASIS OF QUALITY.

The basis of quality of American and Canadian wheat is settled by the grading rules adopted by the state inspection department, or the board of trade or the chamber of commerce of the city or town of dispatch. These rules are for the guidance of the grain inspectors. The British buyer, by the terms of his contract, is bound to accept the decision of the grain inspector as stated in his certificate of inspection, but in this connection the Liverpool grain trade has found that the Canadian inspection is even more reliable than American inspections. If the wheat contained cockle, peas, etc., it would be classified as adulterated, and in the opinion of the buyer a certificate should not have been given by the inspector and a complaint would be made through the Liverpool Corn Trade Association to the point from which the wheat was sold. Practically no Minneapolis or Duluth wheat comes to this market nowadays, and the recent order issued by the Duluth Terminals has nothing to do with the Liverpool demand. Kinghead is not known in Liverpool and there have never been any complaints with reference to it.

Russian wheat is generally sold on a small sample, which is jointly sealed by buyer and seller, and retained in the buyer's possession until the wheat has been delivered. If the quality of the bulk is found to be inferior to that of the sealed sample, the buyer will be entitled to an allowance.

Argentine wheat is sold on the basis of " fair average quality of the season's shipments," together with a guarantee of natural weight. Quality is judged on standards made up from each month's arrivals. The buyer is entitled to an allowance for inferiority of quality. For deficiency in guaranteed natural weight there is a scale of allowances.

The basis of Indian wheat is " fair average quality," and standards are made up from arrivals every month. There is also a provision for analysis. A full allowance at contract price is made for any admixture of dirt, and an allowance at one-half of the contract price for any admixture of barley and any other farinaceous substances.

Australian wheat is sold on standards made up at port of shipment and forwarded to the British corn trade associations at the beginning of each shipping season. The buyer is entitled to an allowance if the bulk is inferior to these standards.

COMPARATIVE QUALITIES—WHEAT PRICES.

Qualities vary so much with each year's production that it would be very difficult to compare them at all, viz: Argentine wheat this year is pronounced very much inferior in quality to what it was last year. Then again, each country's wheat has its own particular virtue; Australian being used for dryness and color, and American, Canadian, and Russian for strength. Each miller has his own ideas of blending wheats to produce the class and quality of flour to suit his particular trade. American soft winter wheat is so similar to the English that it sells in this country at a discount, whereas in the United States it always sells at a premium. American, Canadian, and Australian wheats are invariably clean; that is to say, the admixture of extraneous matter is a negligible quantity. Indian wheat contains about 1¼ per cent of dirt, and about 4 to 6 per cent of barley

and other farinaceous substances. Argentine and Russian wheats are very imperfectly cleaned. They contain a considerable percentage of chaff, barley, and oats.

The prices depend upon the relative production, viz: If there happens to be a large crop of Indian and a short crop of Russian, there would be a glut on the market of Indian, and consequently the price would drop, while the Russian would rise because of the scarcity. It will be seen from this that a comparison of prices is nothing to go on with regard to quality. The prices of wheat per cental of 100 pounds in Liverpool on April 28 were: No. 1 North Manitoba, $2.01; Australian and North Manitoba No. 2, $2; hard American winter and No. 3 North Manitoba, $1.98; Russian, $1.97 to $2.05; white Karachi, $1.93; No. 4 North Manitoba, $1.89.

BELGIUM.

COUNTRIES FROM WHICH SUPPLIES ARE DRAWN.

Consul-General Henry W. Diederich furnishes the following statement, covering the imports of the principal cereals at Antwerp in 1909, to show the grain trade of the port with North America as compared with that from other countries. The Belgium customs include the imports from Canada with those from the Atlantic ports of the United States, rendering it impossible to give the latter separately:

Whence imported.	Wheat.	Maize.	Barley.	Oats.	Oil seeds.
	Metric tons.	*Metric tons.*	*Metric tons.*	*Metric tons.*	*Metric tons.*
California	68,720	.....	3,414	.....	.....
Atlantic United States and Canada	278,550	35,175	9,990	240	6,313
The Plata	625,127	248,114	10,426	64,842	223,274
Australia	124,482	.....	.....	.....	.....
Russia	303,759	34,118	131,545	67,372	5,378
Roumania and Bulgaria	294,114	169,901	109,745	26,086	13,797
India	119,031	400	1,218	.....	162,280
All other countries	45,000	49,694	23,786	5,449	32,835
Total	1,853,783	537,402	290,124	163,989	443,877

COTTON GROWING.

CHINA.

AMERICAN FIBER SUCCESSFUL—MORE GINS ARE NEEDED.

Clerk A. W. Gilbert, of the Chefoo consulate, has translated an announcement in China which says that the delegate from Ching Pinghsien in Tungchangfu to the Shantung provincial assembly has submitted to Governor Sun Pao-chi a comprehensive memorial concerning the cotton industry in his district:

After the experiments with American cotton had turned out so well and the people came to understand the new large cotton, it was the duty of the Government as leader of the people to see to it that the industry was further developed. Northwest Shantung and southern Chihli are most suitable for American cotton. The fields which were formerly planted with short native cotton now yield ten times as much. So much cotton was harvested last year (autumn) that seeking a special market for the cotton is seriously contemplated in east Shantung, Tengchowfu, and Heihsien. Tsinanfu above all other cities is suitable as a cotton market because the general trade always loiters more in the provincial capital which, by virtue of its road communications, is selected as the center of traffic. If the farmers continue to have such good harvests

of foreign cotton and are given the opportunity to fix the price of the product, then agriculture will flourish in those districts, cotton culture will extend over further territory, and Shantung Province will be in position to supply all the demands of its inhabitants for cotton.

More machinery is necessary to facilitate the ginning of cotton. Expensive foreign gins should not be used. Taotai Chu Chung-chi, who is connected with the foreign settlement at Tsinanfu, has had his local industrial official construct five gins after the old and tried Chinese pattern, which were leased to those places where much cotton was planted. Besides this, there have been a total of ten gins in operation in various cities. It is now seen, however, that these machines will not be sufficient for pulping and ginning the cotton. For this reason a cotton-gin company should be formed, which would be of service to such places as lack the necessary machines. If the ginning were simplified and facilitated then the assured output of next year's cotton crop would be cared for, and if, under the supervision of the Government, good American seed were annually introduced for sowing in Shantung, it is predicted that the culture of foreign cotton would be very extensive in the plains to the north of the Hwangho.

MEXICO.

LARGEST PROSPECTIVE YIELD IN HISTORY OF THE INDUSTRY.

The present season's yield of cotton in Mexico is expected to surpass all previous records. Dispatches to Mexico City from Torreon state:

Experts who have carefully gone over the cotton acreage of the Laguna district place this season's yield at 300,000 bales (of about 500 pounds each), which equal 1,500,000 quintals. The heavy crop, they say, is due to large acreage and splendid conditions. Even should the yield fall 500,000 quintals below the estimates now placed on the crop, the total value of the cotton raised in the Laguna district this season should approximate $17,500,000 gold, to which may be added another $2,500,000 for cotton seed.

The Laguna district produces 80 to 90 per cent of the cotton crop of Mexico. The total crop of the entire country was only 75,000 bales in 1907–8 and about the same amount in 1908–9, against 170,000 bales in 1906–7, the largest yield up to that time.

WEST INDIES.

DIMINISHING PRODUCTION OF SEA-ISLAND COTTON.

Consul Chester W. Martin, of Barbados, reports that there was exported from the British West Indies for the calendar year 1909, 6,463¾ bales of cotton, containing 2,242,289 pounds; estimated value $556,885. This was a decrease of about 500,000 pounds from the preceding year. From the best information obtainable, the crop for 1910 will show a still further decrease. The cotton was nearly all sea island. The cultivation of sea-island cotton first became a factor in 1902. There was a steady increase in acreage up to 1907, when it reached its maximum. Since that year there has been a decrease in acreage in nearly all the islands.

ARGENTINA.

PRIZES FOR THE ENCOURAGEMENT OF ITS CULTIVATION.

Consul-General R. M. Bartleman, of Buenos Aires, furnishes the following information concerning the official encouragement of the production of cotton in Argentina:

A series of competitions are to be held under the auspices of the Argentine Ministry of Agriculture during the agricultural year 1910–11 for the encouragement of cotton production, especially in

the northern part of the Republic. Various money prizes, together with diplomas of honorable mention, are offered for success in these contests, while medals and money prizes are also offered for cloth and thread manufactured from Argentine cotton, and for oil from Argentine cotton seed.

It has been estimated that while about 150,000,000 acres of land in Argentina are suitable for cotton growing, only 4,295 acres are under cultivation, as contrasted with "over 15,000 acres" reported by the American consul-general in 1905. Lack of cheap labor, high transportation charges, and cost of living on the plantations deter the successful cultivation of cotton in Argentina.

COCOA CROP CRISIS.

FEARS ENTERTAINED OF AN APPROACHING OVERPRODUCTION.

In answer to a newspaper inquiry Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning the cocoa trade outlook:

Within fifteen years, according to the Gordian, of Hamburg, the world's crop of raw cocoa beans has increased from 75,000 to 205,000 tons. Should the Gold Coast crop continue to increase at its present ratio, and all other crops remain stationary, by 1914 the world's crop will have reached 360,000 tons, and hence by that time the Gold Coast singly, with a crop of 180,000 tons, will be producing as much raw cocoa as is now consumed.

Can the consuming markets keep pace with this forward movement? While the cocoa crop from 1903 to 1909 increased 65 per cent, the nine leading consuming nations advanced their requirements by only about 60 per cent as follows:

Country.	1903.	1909.	Country.	1903.	1909.
	Tons.	*Tons.*		*Tons.*	*Tons.*
United States	27,291	53,378	Switzerland, Belgium, Austria, and Russia	12,557	18,988
Germany	21,634	40,724			
France	20,741	23,254			
United Kingdom	18,681	24,264	Total	111,684	179,945
Holland	10,730	19,387			

In this increase of 68,311 tons, Germany and the United States participated to the extent of 45,177 tons, and even should they do as well within the next five years, unless the other consuming nations do as much, the gain would be far from equalling the anticipated increase in the crop. If farmers keep on extending their plantations, unless the consumption increases in the same ratio, stocks are bound to accumulate and prices to go down. Stocks in storage, particularly the African kinds, will lose in quality, and planters will become discouraged. Thus one crisis will succeed another, a condition only to be avoided by limiting the accumulation of stocks to the requirements of six months—a feat only possible by forcing consumption.

The chief reliance of the trade, in this prospective emergency, is upon the growing popularity of cocoa beverages in the United States. How important this change in American public taste is, may be under-

stood by comparing the imports of raw cocoa, coffee, and tea into the United States in 1896 and 1909:

Articles.	1896.	1909.	Increase.
	Tons.	*Tons.*	*Tons.*
Raw cocoa	10,474.4	53,379	42,904.6
Coffee	261,300.0	410,000	148,700.0
Tea	42,299.0	45,000	2,701.0
Total	314,073.4	508,379	194,305.6

Although the general demand for cocoa products grows greater and, to some extent, at the expense of tea and coffee, the production of raw cocoa increases still more rapidly, and if this fact occasions grave concern in trade circles it also suggests advantages to the consumers of one of the world's great beverages.

FOREIGN CROP REPORTS.

OMAN.

AMERCAN DATE PURCHASES ARE LARGER—HIGHER PRICES PAID.

Consul John A. Ray, of Maskat, writes that the date season of 1909 in the Arabian sultanate of Oman was an exceptionally long one, owing to the strong demand from America, opening in September and lasting through February. His details follow:

In 1908 no dates were shipped after the end of December. With the exception of one shipment of 600 cases to San Francisco, all dates for America have gone through New York. According to statistics furnished by the superintendent of customs, the crop of 1909 consisted of 87,000 packages, made up of 60,000 packages of dry dates and 27,000 packages of wet dates. Of these, 5,000 packages were consumed locally and 82,000 packages exported. As the package is understood to mean 108 pounds, the equivalents in American weights are: Dry dates, 3,240 short tons; wet dates, 1,458 tons; total crop, 4,698 tons; consumed locally, 270 tons; exported, 4,428 tons.

The dates shipped to the United States from the opening of the season to the first week in March, 1910, amounted to 1,074 tons, as compared with 996 tons for the season of 1908. The declared value of these dates for the season of 1909 was $63,123; for 1908, $52,485; or an average value in 1909 of 2.93 cents against 2.63 cents per pound in 1908. Only the best wet dates, known as Fard or Nuther Fard, are shipped to America, the rest of the crop going almost exclusively to India. The European market does not seem to absorb any of the Maskat crop. The reason given by the local dealers is that Maskat dates are too expensive for the European market.

There are only three firms engaged in the exportation of dates to America [names on file in the Bureau of Manufactures]. Competition in bidding for dates has ceased by agreement between these firms. The price paid at Matrah to the Omani traders has averaged 6½ mohammedis (called also "mahmudis") per maund of 8½ pounds. In purchasing dates, 20½ mohammedis are reckoned as worth 1 Maria Theresa dollar, valued at $0.425 approximately, making the price paid per pound 2.32 cents. The shooks and other materials

needed in packing dates being furnished by the New York importers, the difference of $0.0061 per pound represents the cost of the labor in packing and shipping, loss by rejection of unsound dates, and commissions.

The packing is done altogether by women. The price of female labor is the same in all the packing houses—40 Maskat pice (6⅔ cents) for 60-pound boxes, and 6 pice (1 cent) for 12-pound boxes. A very energetic woman can pack 2 boxes of 60 pounds in 1 day, but the average woman packs 3 boxes in 2 days. Coolies are hired at 40 to 100 pice (6⅔ to 16⅔ cents) per day. The shooks are made into boxes by carpenters whose wages average: Head carpenter, 1 Maria Theresa dollar (42½ cents) per day; others, one-half a Maria Theresa dollar.

Until 1906 shooks were sent from America, but since that time they have come from Norway. This represents a considerable loss in American trade with this port, as the number of cases shipped this season was slightly over 22,000.

The Maskat exporters put up their dates under six different marks [which are on record at the Bureau of Manufactures].

TURKEY.

NEW VALONIA CROP VERY LARGE—LOW PRICES AND COMPETITION.

The present season's yield of the tanning material, valonia, in the Smyrna district of Turkey is summarized by Consul-General E. L. Harris:

The 1908–9 season yielded 66,000 tons (an average crop), 48,000 of which have been exported to Europe, Australia, and America, 5,000 serves local consumption, and the balance has been stored up in the country. The 1909–10 crop is estimated at 72,000 tons. As always with a large crop, the fruit, although fine in appearance, is rather small and light. Prices at the end of March, 1910, were $28.87 to $51.40 and for the "refuse" $22.80 to $23.30 per ton f. o. b. [The comprehensive report from Mr. Harris two years ago on the valonia trade stated that the prices then ranged from $47.50 to $55 for first quality down to $28.50 to $32 for the fourth or lowest quality.—B. of M.] The consumption of this article abroad decreases gradually, owing to several new competing tanning materials. Low prices are, therefore, the only means to prevent valonia from being dropped altogether. Two valonia extract factories were lately established in Smyrna. They were expected to improve the trade, but either because they do not yield extract enough or on account of the slack demand for their product these factories are far from using the quantities of valonia anticipated.

SPAIN.

GOVERNMENT STATISTICS OF PRODUCTION LAST SEASON.

According to official statistics, Consul Charles L. Hoover, of Madrid, says that in 1909 Spain devoted 3,445,309 acres to the growing of olives, with the following results:

The total production of olives of all kinds was 1,398,294 tons, or about a metric ton (2,204 pounds) per hectare (2.47 acres). The oil mills crushed 1,332,294 tons, the yield of oil per 100 kilos of

olives (220 pounds) being 18 liters (4.75 gallons). The total production of oil in the Kingdom was 63,299,808 gallons.

The provinces having the greatest yield of olives in the order of the quantity produced were as follows: Seville, Cordoba, Jaen, Tarragona, Malaga, Granada, Murcia, Huelva, Teruel, Badajoz, Caceres, Castellon, Valencia, and Alicante. These provinces lie in the southern half of the Kingdom.

ENGLAND.

LARGE YIELD WITH A DECREASE IN THE NATURAL WEIGHT.

Consul Frank W. Mahin, of Nottingham, reports that the inferior quality of the English grain crops of 1909 will more than offset their unusually large yield. The most recent results he gives as follows:

The average yield of wheat per acre in this district (Midland counties), was 4 bushels more in 1909 than in 1908, though the latter was above the average of the preceding ten years; the same applies to oats and barley, except that the increase over 1908 was less. The average yield of wheat per acre, by counties, was as follows: Rutland, the highest, 37.21 bushels; Leicester, the lowest, 31.76 bushels, but even this was an increase of 7 bushels over 1908. The average wheat yield per acre in the whole country is placed at 33.69 bushels in 1909, or 7 per cent above the average. Oats and barley showed large increases in similar particulars.

These figures standing alone indicate that 1909 was a prosperous cereal year in this country. But a local agricultural expert states that there was a serious deficiency in the "natural weight" of these three grains, amounting to about 1 pound a bushel less than for the corresponding crops of 1908 and 1907, and 2 pounds less than for those of 1906. Not only was the average grain light in natural weight, but much of it was damp and out of condition. Bad weather last year, especially at harvest time, accounts for this deterioration. One redeeming feature, however, was the large yield of straw in 1909, which from all three grains was much beyond that of 1908.

VENEZUELA.

LAST YEAR'S TONCA BEAN CROP A LARGE ONE.

The following information concerning the production and gathering of Tonca beans in Venezuela is furnished by Consular Agent Robert Henderson, of Ciudad Bolivar:

The Tonca bean crop of 1909 was a large one, owing to its being a "third year," there being a large crop every three years. The Tonca bean trees are almost entirely in the thickly wooded and mountainous country along the upper Orinoco and its tributary, the Caura. Although there are some cultivated trees, the most productive are the wild forest trees.

The gathering of the crop is dangerous and difficult. The laborers enter the forest in bands of 10 and 15, carrying with them food to last two or three months. The men generally get fever, owing to the great heat and dampness of the forests, and being entirely dependent on the food supply they take with them, many die of disease and hunger. The fruit is picked up on dropping from the tree and then dried, being subsequently cracked in the most primitive fashion to obtain the nut or bean. These are dried and carried to the nearest

port on the river, whence they are dispatched to this city and cured by a treatment in which strong rum is used.

The principal market is New York, although some are shipped to London, Hamburg, and Paris. They are mostly used in the preparation of tobacco, but they are also used for perfumes.

FARMING ABROAD.

AFRICA.

CAPITAL NECESSARY TO SUCCESS IN GERMAN PROTECTORATE.

Consul George Nicolas Ifft, of Nuremberg, forwards extracts from a letter receiving considerable attention in the German press, written by a young colonist, on farm life in German Southwest Africa. Some interesting facts are presented, among which are the following:

Lands may be acquired from the government, land companies, or settlers at prices varying from 15 to 78 cents an acre, according to location, degree of cultivation, etc. The northern section, where water and grass are more abundant, is suitable for cattle raising, and the southern section is better adapted for horses and sheep. From 20 to 25 acres per head are regarded as necessary for large stock, and 5 to 7 acres per head for small stock. The average size of a farm in the north is 12,500 acres, and in the south 25,000 to 50,000 acres. Where water is abundant are found the so-called small farms, where each farmer has 25 to 50 acres of fertile alluvial land suitable for garden-like intensive cultivation, in addition to grazing land used in common by the settlement.

The day when it was possible to farm without money is past. To-day at least $12,000 is necessary to begin farming. Counting $2,500 for land, $3,000 to $5,000 for stock, $1,500 to $2,000 for the first two years' expenses, $2,500 for a house, and $500 for tools, etc., only the absolutely essential things have been taken into account. For the first and second years returns can scarcely be counted upon, at best perhaps a small part of current expenses paid from the sale of butter or garden truck. I would advise everyone who has not at least $12,000 (or perhaps, if an experienced and practical farmer, $7,000 to $9,000) not to try it, but to remain in Germany. A small settler needs at least $5,000 and, above all things, a knowledge of gardening.

TASMANIA.

DECREASE IN ACREAGE BUT INCREASE IN PRODUCTION.

Consul Henry D. Baker, of Hobart, furnishes the following official forecast for the crops of Tasmania for 1909–10:

It is estimated that the area under the five principal crops amount to 209,692 acres, against 216,003 acres for 1908–9. This decrease is doubtless due to sheep raising and apple planting having proved more profitable than growing grains. However, the production for 1909–10 is estimated to show considerable increase except for hay and potatoes. Generally speaking, conditions this year are favorable for the farmers, except that the potato blight has done much injury and caused a decrease of about one-third in the acreage. The estimated amounts of the 1909–10 crops in bushels are: Wheat, 797,210; oats, 2,310,454; Cape barley, 51,525; English barley, 169,623. Hay and potatoes, 127,347 and 91,618 tons, respectively.

FOODS AND DRINKS.

AUSTRALIAN CHILLED BEEF.

USE OF THE NEW LINLEY PROCESS IN SHIPPING TO EUROPE.

Australia has increased its meat exports in the past five years from $7,000,000 to $10,000,000 annually. In the efforts to further extend this trade the Linley process of sterilizing beef has been tried and is meeting with favor. American inquiry having been made concerning this method, Vice-Consul-General Henry D. Baker, of Sydney, has prepared the following report:

Considerable interest has been aroused in Australia over the success of an initial shipment of Australian chilled beef from Brisbane to London, the beef having been landed in excellent condition and fetching at the Smithfield market 8½ to 9 cents per pound for hind quarters, as explained by Consul-General John L. Griffiths, of London, in Daily Consular and Trade Reports of December 6, 1909.

This beef, which was chilled under the "Linley process," was 62 days in transit from Brisbane to London, and the prices obtained were equal to those of the best Argentine beef, though the time in transit was about twice as long. Before the exports can assume any magnitude it will be necessary to obtain further equipment and appliances for chilling the beef in Australia and keeping it chilled and protected from bacilli on the ship passage to England. A dispatch from London states that a large ocean liner which is being built for the Australian trade will make its first voyage to Australia next February, and will be specially fitted with chambers for the conveyance of Australian chilled beef.

STERILIZING THE BEEF.

The Linley process for chilling beef, as distinct from freezing it, is the invention of Mr. J. Linley, who has had a long experience in the beef trade, both in Australia and the Argentine. I understand that for several years past there have been successful results from this process in shipments from Argentina to London, before the present trial of this process in Australia. The process may be described as follows:

The animal carcass having been prepared and cleaned with all possible haste, the sides and quarters of beef are then hung up in an insulated chamber, with plenty of air space between them, the chamber having been perfectly sterilized by both chemical and mechanical means. When the chamber has been filled with carcasses the contents are subjected to a sterilizing process by a powerful germicide. The temperature in the chamber is then gradually lowered to 32° F., where it is maintained until the beef is placed on board ship. As the beef in cooling gives off a certain amount of moisture, this is

extracted, and the air is kept in a relatively dry state. The ship's hold must be similarly sterilized and prepared for the reception of the beef, and on arrival in London the beef is placed in similarly sterilized cool chambers, ready to be put on the London market. All the beef must be carried suspended to hanging rails, and in the ship's hold there must be apparatus for sterilizing the air and extracting the moisture. The outfit must include specially tested sets of finely graded mercurial thermometers. In the first shipment to London the hold of the ship was prepared for the beef by its temperature being reduced within forty-eight hours to 30.5° F., which temperature was maintained throughout the voyage, except twice, when the hold was opened for examination of the beef, when necessarily there was a slight temporary rise in temperature. It is stated that an advantage of the chilled beef over frozen beef is that the former can "ripen" as it comes over, and arrives ready for the table, while the latter arrives in practically the same state as when it was killed, too new to be eaten, so that it must be ripened on the other side. The chilled beef, therefore, it is claimed, is more readily marketable than the frozen beef.

STATEMENT BY A SHIPPING FIRM.

An interview appeared in a Sydney stock journal, in December, with the head of the firm which has inaugurated the chilled-beef shipments to London (Mr. John Cooke, of Melbourne). He is quoted as follows:

Ever since 1904, when I began shipping chilled beef from the Argentine Republic on a substantial scale and proved that not only was the system safe, but that the British public wanted the chilled in preference to the frozen article, I determined that it was practicable to repeat the process from Australia. The killing and chilling of the cattle was commenced at our works in Brisbane on the 23d of last August, and the beef was loaded on the ship on September 1 and 2, this ship sailing on September 3 and reaching London via the Cape on November 2, a period of, say, about 70 days from start to finish. When it is understood that some ten years ago the "life" of beef shipped in a chilled state from the United States was regarded as only about 15 to 20 days—the voyage ranging from seven to twelve days—and that up till three or four years ago the transport of chilled beef from Buenos Aires—a voyage of about 25 days—was not infrequently attended with disastrous results, this shipment from Australia is a matter for unbounded satisfaction. It had indeed come to be an accepted fact that it was very risky to keep chilled beef sound beyond about a month, and the trade seemed to have almost adopted that period as an unstretchable maximum. I was myself convinced that until we could secure some process which would thoroughly sterilize the meat prior to shipment and during transport, it would be unwise to ship from Australia. Fortunately the "Linley process" was discovered, and so thoroughly tested from Argentine, that I became convinced that shipments would be rendered practicable. It was my first intention to ship only by the quickest mail steamers, say, a 45-day voyage from Brisbane to London, but unfortunately the cold blast refrigerating system on these mail boats seemed unsuitable for chilled beef, and so it was decided to ship in boats equipped especially for chilled beef.

Serious trouble arose through inability to get the cargo insured against all risks, as underwriters would not even quote a rate of premium. This difficulty was overcome by the aid of the Queensland government, which, recognizing that the experiment was a national one, agreed to share the risk of loss with us on a fair basis. Although no loss has arisen on the initial shipment, not a single quarter of beef being damaged, it will be necessary to have state aid of a similar character continued until the insurance authorities gain such confidence in the trade as will enable shippers to effect the customary "all risks" insurance.

The main difference in transport of chilled and frozen beef in the steamer's hold is that frozen beef is stowed closely, in the same way as wool or wheat, and is carried at temperatures ranging from 10° to 15° F., whereas the quarters

of chilled beef have to be hung on rails and kept at a fixed temperature of 30° to 31° F. This method of stowage necessarily involves more space and a higher rate of freight; but, on the other hand, chilled beef commands better prices on the average than frozen beef. About 1d. (2 cents) per pound about represents the average difference in price, although this difference is sometimes removed if heavy cargoes of chilled beef arrive simultaneously with shipments of frozen, for the former has to be sold at once, while the latter is capable of being stored. I have no doubt that as soon as enough chilled steamer space is available, the bulk of Argentine beef will reach British ports chilled, and, further, that arrangements will be made to bring supplies into such harmony with market requirements as will prevent chilled beef being sacrificed from time to time.

Chilled beef seems more in favor than frozen beef with distributers and customers, mainly because the former does not require thawing, but is ready for immediate use, and to all intents and purposes can be disposed of as fresh beef. Frozen beef, on the other hand, requires careful thawing to preserve its color and bloom. This it rarely gets, and consequently there is much public prejudice against its use.

Australia is just recovering from the effects of the big drought, and I have no doubt that our beef export will now rapidly increase with a continuance of fair seasons. In order, however, to successfully compete with other countries, we must improve our herds, reduce expenses, and carefully but rigorously see that only superior-quality meat is supplied.

When asked if there is any chance of mutton and lamb being shipped in a chilled condition, the same authority said:

None whatever. Firstly, because the cost would be excessive, and, secondly, the distributers of frozen mutton and lamb in the United Kingdom prefer it hard for the purposes of safe and cheap transport. Mutton and lamb thaw quickly, but beef, being so much heavier and thicker, takes a longer time. Furthermore, chilled mutton and lamb would only sell at a fraction more than frozen, and certainly the extra price would not cover the additional cost of transport.

DRY-AIR PROCESS OF PRESERVING MEAT—EXPORT INSPECTION.

Some experiments have been made in Sydney of late with a "dry-air process" of preserving meat, which seems to promise auspicious results. Some of this meat after being treated by the new process has been hung up in bags, and then after about 15 days opened in the presence of veterinary surgeons and commercial men and found quite fresh. The inventor of this "dry-air process" claims that for $100 a station owner can put up the necessary plant and treat sheep at a cost of one cent per carcass, and after being treated by this new process the meat may be hung in any ordinary place and atmosphere and kept good for a week. The period of treatment is about 14 hours. Some of this meat, according to the Herald, of Taranaki, New Zealand, from cattle and sheep killed at Sydney between December 7 and 14, arrived in Wellington, New Zealand, on the 22d, having been carried in the ordinary vegetable hatch on the deck of the vessel, and when examined by the press representatives was quite sweet and sound.

Some time ago complaints were received by the minister for customs of the Commonwealth of Australia with regard to the condition in which Australian meat arrived in London. With a view to investigation of how conditions could be improved, the assistant comptroller of customs visited the different States and has just completed a report on the meat export trade in which he makes certain important recommendations for more efficient handling and inspection of meat. In his report he states that the value of the various meat products, other than rabbit, hare, and poultry, exported from Australia in 1908 was valued at $10,075,601, against $6,919,678 in 1904.

FROZEN MEAT.

MOST OF THE EXPORTS GO TO THE UNITED KINGDOM.

From the returns of Australian exports of frozen meat during 1909, Consul-General John P. Bray, of Sydney, has compiled the following statistics:

Shipments of mutton amounted to 1,633,042 carcasses, an increase of 649,638 carcasses, equivalent to 67 per cent over the previous year. Shipments of lamb, however, showed a decrease of 108,809 carcasses, or nearly 8 per cent. Exports of beef amounted to 390,626 quarters, an increase of 156,527 quarters, or over 66 per cent. The following is a comparison of Australian frozen meat exports to all countries and to the mother country for the past four years:

Year.	Mutton.		Lamb.		Beef.	
	Total.	United Kingdom.	Total.	United Kingdom.	Total.	United Kingdom.
	Carcasses.	*Carcasses.*	*Carcasses.*	*Carcasses.*	*Quarters.*	*Quarters.*
1906	1,160,272	649,082	1,293,804	1,267,247	294,392	22,394
1907	1,318,957	870,730	1,347,456	1,318,584	308,118	103,064
1908	983,404	795,314	1,379,269	1,358,557	234,099	81,983
1909	1,633,042	1,499,601	1,270,460	1,251,803	390,626	293,535

The statistics show that out of last year's totals nearly 92 per cent of the mutton, 98½ per cent of the lamb, and 75 per cent of the beef were shipped to the United Kingdom.

FISHING INDUSTRY.

PORTUGAL.

CONSUMPTION OF FISH—FLEETS ENGAGED IN BUSINESS.

Consul-General Louis H. Aymé, of Lisbon, submits a report on the fishing industry in Portugal from data furnished by Eduardo de Moser, owner of one of the steam trawlers, the following being a summary:

Fish, either fresh or salted, are an important article of food in Lisbon. The quantity of fresh-water fish consumed is small, but fresh sea fish are largely consumed; probably half a pound a day for every man, woman, and child in Lisbon would not be an overestimate.

The Lisbon fishing fleet numbers 46 vessels, of which 34 are sail-boats and 12 steam trawlers. The latter are all registered in Lisbon and represent a capital value of about $350,000. They belong to nine different owners, none being owned by companies. The crews vary from 13 to 15 persons, and the wages range from $18 to $140 a month. In addition, the crews earn commissions on the catch, varying from $450 to $500 a month. Foreign trawlers are allowed to sell their catches in this city and there are always 5 or 6 steam trawlers flying foreign flags to be seen in Lisbon.

On the sailing fleet of 34 boats, which represent an investment of about $20,000, 313 men are employed. No fixed figures can be given as to the wages earned by the crews, who, as a rule, have a share in the catch, especially if the boat is owned by the crew, as is often the

case. When the boat is owned by one man, the crew usually receive only fixed wages. There is a single steam trawler fishing from Oporto.

LOCATION OF FISHING GROUNDS—CHARACTER OF CATCHES.

The fishing grounds are off the Portuguese and Moroccan coasts. Steam trawlers are absent from Lisbon three or four days when fishing off the former, and nine to twelve days when off the latter. The best seasons of the year are autumn, winter, and early spring. During the summer many thousands leave Lisbon for the country, and it is difficult to send fish there; few fish are consumed and prices are much lower. Any catch from a trip to Morocco exceeding $2,500 is considered good, and catches from the coast of Portugal in proportion.

Probably two-thirds of each catch consist of cod, the other third being made up of whitings, breams, soles, snappers, mackerel, congers, etc. Rays and similar fish are brought in only when caught off the Portuguese coast. Such fish when caught off Morocco are thrown overboard; being very heavy they must be carried on deck and would not reach the market in good condition after 60 hours' exposure. Such fish are also very cheap; they are used only by the very poorest classes and would scarcely pay the import duties.

The fish are kept on ice after caught, the factories by special contract furnishing ice to national trawlers at a much lower rate than to foreign vessels. Fish brought in by Portuguese trawlers pay a tax of five per cent on the gross product of the sales of the catch. Foreign boats pay an import duty of about one cent per pound of fish landed.

Portuguese vessels in the fishing trade may land at any time, day or night, but foreign vessels must be in before sunset, as they are subject to the visits of the sanitary and customs authorities. If they enter port after sunset they must wait until these formalities are complied with the next morning. Trawlers, both national and foreign, lie alongside and discharge their fish at any time after 9 o'clock in the evening. No trawler can discharge more than 25 to 28 tons of fish in one night. Three tons an hour is considered the maximum.

METHODS OF MARKETING—THE FISH GIRLS.

The fish are hauled up from the hold in baskets by a steam winch and delivered on the quay, where the baskets are emptied into large tanks belonging to the vessel and the fish thoroughly washed. They are then loaded into large baskets and taken in carts to the market, accompanied by a customs guard and a trusted employee of the shipowner to prevent fraud and theft. At the market the fish are separated by varieties and placed in special baskets furnished by the municipality, which baskets alone can be used and for which a tax of four cents each is imposed. These baskets are placed in rows on the ground and at daybreak the fish are inspected and sale authorized. The inspection is intrusted to an old employee of the market, and the rule is that any fish, in whatever amount, having an offensive smell shall be destroyed.

The sales, which are made by auction to large dealers, are always very animated, especially when the catch landed is small. The pur-

chasers resell the fish to smaller dealers who carry them to another market, where they are again sold at auction in small lots, the amount of each lot being that which can be carried in a basket on the head of an "ovarina."

The ovarinas are perhaps the most interesting people in Portugal. They are probably the lineal descendants of the original inhabitants of the land, and now come from a small place called Murtosa (Estarreja), not far from Oporto. As the termination indicates, the ovarinas are the women of these people. Both old and young, for even young children are thus employed, are exceedingly active and energetic. They go about barefoot, wearing a peculiar costume, and carrying huge baskets of a peculiar shape on their heads. They travel many miles a day and penetrate into every corner of the city, crying their wares in a loud, unmusical shout. They mount even to the sixth floors and bargain with buyers. They go barefoot not because of their poverty, many of them possessing expensive gold ornaments, but because they can thus more easily cover the many miles they run during the day. Attempts have been made to do away with this method of selling fish, but they have all failed. The consumers like to deal with these fish girls and can purchase from them very small amounts. Fish is not purchased by weight but by the fish or part of fish. The price averages 12 to 15 cents per pound. There are not less than 2,000 ovarinas engaged in selling fish in Lisbon.

The foregoing report refers only to sea fish, exclusive of sardines and tunny, each of which constitutes a distinct industry, although large quantities of fresh sardines are sold with other fish.

SPAIN.

LARGE IMPORTS IN ADDITION TO PRODUCT OF HOME FISHERIES.

Deputy Consul Albert S. Troughton furnishes the following information concerning the consumption and trade in fish in Malaga:

No figures are available showing the importance of the Malaga fisheries, but over 100 boats sail out of this Spanish port to supply its daily fish needs, fish and vegetables constituting the food of 75 per cent of the population of the province.

The imports of dried cod in 1909 amounted to over 8,000,000 pounds, the greater part coming from Newfoundland and Nova Scotia. The imports of smoked herring are increasing slowly, but no smoked or dried halibut, haddock, or salmon are reported. Malaga should offer a good market for these, and the names of the principal importers are forwarded, in order that American exporters may get in touch with the trade. [Names on file in the Bureau of Manufactures.]

During 1909 about 73,000 pounds of preserved and canned fish, sardines and anchovies chiefly, were exported to Cuba, Philippines, Argentina, and France. New markets for these are being opened up in Italy and Portugal. The annual catch of anchovies is estimated at 220,000 pounds, and their preparation is becoming a leading industry. During the quarter ending March 31, 1910, 150 cases were shipped to

the United States, and the local packers hope that this marks the beginning of a large American trade. [The names of the principal packers of anchovies are on file in the Bureau of Manufactures.]

CANADA.

BRITISH COLUMBIA CANNERIES—ESTIMATES OF THE PACK.

Consul Abraham E. Smith, of Victoria, in reporting that the salmon season opened in British Columbia on July 1, reviews the prospects:

It is stated 56 canneries will be operated in 1910, of which 22 are located on Fraser River, 12 on Skeena River, 8 on Rivers Inlet, 4 on Naas River, and 10 in outlying districts. The pack of all kinds of salmon on the Fraser River this season is expected to range from 175,000 to 250,000 cases, the difference in the figures representing the different opinions of various canners. The pack of sockeyes on the Fraser is variously estimated at from 100,000 to 150,000 cases. The estimated pack of all kinds of salmon for British Columbia is between 500,000 and 600,000 cases. At the 22 canneries which will be operated on the Fraser River arrangements are being made now for the opening of the sockeye fishing season. Preparations are being made for establishment of two salmon hatcheries on the west coast of Vancouver Island.

Under the direction of an American scientist of California, for the past eight years, the salmon-packing industry of British Columbia has been developed to greater extent than ever before. This American expert, however, having recently received the appointment of state fishery commissioner of California, has resigned his position in British Columbia, to take effect August 1, 1910. His official report of the pack for 1909 in British Columbia was 967,920 cases salmon of 48 pounds each, of the approximate value of $5,600,000.

MEXICO.

THE WATERS OF LOWER CALIFORNIA COVERED BY A CONCESSION.

Consul George B. Schmucker, of Ensenada, furnishes the following information concerning the possibilities of the fisheries of Lower California, if properly developed:

The fisheries of the entire peninsula, a distance of 1,500 miles, exclusive of the pearl and shark fisheries, are controlled by one company, which holds the concession from the Mexican Government. This concession is so exclusive in its provisions that no individual or company, at any point along the entire coast of the peninsula, can engage in the business of taking fish for the market, either domestic or foreign, without the consent of the company.

There is only one small vessel engaged in the transportation of fish from the Pacific coast of Lower California to the United States, and this vessel only plies between Ensenada and neighboring points to San Diego, Cal. The exports of fish from the peninsula to the United States are, therefore, insignificant, amounting to only $18,800

in 1909, of which live crawfish, known commercially as lobster, amounted to $12,140. This crawfish differs from the ordinary lobster in the absence of the pinchers.

Barraconda, rock cod, halibut, white sea bass, rock bass, mackerel, whitefish, and other varieties are said to abound in the waters of Lower California, and were modern fishing methods, modern refrigeration, and transportation inaugurated there is little doubt but that a large and profitable trade could be built up. [The address of the president of the company holding the Lower California fishing concession is on file in the Bureau of Manufactures.]

AUSTRALIA.

GOVERNMENT EXPERIMENTS IN NEW SOUTH WALES AND OTHER WATERS.

Vice-Consul-General Henry D. Baker, of Sydney, furnishes the following information, being the result as given in official returns of twelve cruises of an Australian Commonwealth investigation ship to study the commercial possibilities of deep-sea fisheries:

The waters examined were sections of the south coast of New South Wales, the eastern part of Bass Straits about Wilson's Promontory and Flinders Island, the western part of Bass Straits about Cape Otway and King Island, the north, east, and south coasts of Tasmania, and preliminary surveys of South Australian waters. These explorations have shown that certain parts of the Australian coast are extremely prolific in marketable fish, including especially the south coast of New South Wales, where in Disaster Bay 902 large marketable fish were obtained in one hour of trawling, and in the vicinity of Flinders Island, where on what is known as Flinders Bank, with water from 20 to 45 fathoms deep, and harboring excellent fish food, such as small shellfish and crustaceans, about 30 drags gave an average of 362 marketable fish per hour. In open portions of Bass Straits where the tides are strong there is an abundant growth of coral, sponges, etc., which renders trawling difficult, and in none of these places were many good fish met with. The more quiet waters about Bass Straits appear to be particularly suited for flounder. Over vast areas of sea investigated, the bottom consists of coarse sand, which is barren and desert-like, though in some instances covered with sponges and other growth. In South Australian waters in particular, along the Great Australian Bight, large sections of the sea have white sand at the bottom, and in these cases fish life is very scarce. In general, the richest trawling grounds were found in localities where a reversal of eddies or currents facilitate the accumulation of fish food.

It seems possible that if Australian fisheries are to develop along such lines as are suggested by the Director of Fisheries additional capital and improved boats and gear for deep-sea work, which are necessary for such development, might be supplied, perhaps by the United States, if those interested in the fishing industry in the United States and in manufactures of fishing gear would turn their attention to this country.

TEA AND COFFEE TRADE.

BRITISH INDIA.

LARGER OUTPUT WITH GOOD DEMAND AND PRICES.

The following review of the Indian tea trade for the fiscal year ended March 31 is from Consul-General William H. Michael, of Calcutta:

During the year 1909–10 the United States and Canada received direct from Calcutta 7,547,537 pounds of tea, against 6,562,100 pounds in the previous year, more than three-fourths of which found a market in the United States. Just what proportion of the 180,083,195 pounds of tea shipped direct from India to the United Kingdom went to the United States by transshipment there is no way to find out at this end of the line. Had the proposition to tax all tea not imported direct from the countries of production into the United States carried two years ago, it would have accomplished two results, namely: First, the United States would know precisely where its tea came from, and, secondly, would have received tea that had not been manipulated to its detriment. While it would have increased the amount of Indian tea shipped direct to the United States, it would have decreased the amount shipped to London, and would have made quite a difference in the profits of tea manipulated in that city.

The total shipments of tea from India during the year amounted to 14,750,000 pounds more than the shipments of the previous season, both years being record ones. The greatest increase in the production of tea in India during the year was in Assam, where the weather was favorable from the beginning to the end of the season. The Assam tea is coarser than that produced in the Darjeeling district.

PRICES PAID.

The average price of tea sold in the Calcutta market was 15 per cent in advance of the average price of tea sold last year, showing that the tea industry in India is improving year by year. Australia took 8,604,796 pounds last season, and Russia 30,490,536 pounds. Hankow, China, took broken tea and dust for the manufacture of brick tea, amounting to 6,256,932 pounds, which is about 1,000,000 pounds more than that sent to the ports of China the previous year. Continental countries took 632,564 pounds, a falling off of about 400,000 pounds compared with 1908–9. The Persian Gulf ports received from India 5,363,132 pounds. All other places, including Turkey and Africa, took 2,916,156 pounds. The average price paid for tea in the Calcutta market was 13¾ cents per pound. The tea dust sold for shipment to Hankow, China, to be manufactured into brick tea, sold in the Calcutta market at an average of 11 cents.

The actual amount of tea of all sorts shipped to foreign countries from Calcutta during the year amounted to 55,554,721 pounds, about 2,000,000 pounds more than in either of the two preceding years. These figures indicate that Indian tea is growing in favor, and that Calcutta is becoming one of the most important tea markets in the world. In fact, there is such a demand for tea at the Calcutta auc-

tion market that the supply does not equal the demand. It must not be understood that all the tea shipped to London from India is sold in this market, for some tea estates ship their outturn direct, without their tea going through the Calcutta market.

BLENDING OF QUALITIES—GREEN TEA.

A great deal of tea sold in the Calcutta market is separated and put through a process of blending, and is repacked for shipment. In this way the inferior tea grown in the lower countries of India is given a better flavor and higher grade. Thousands of pounds of Indian tea are purchased by Ceylon tea dealers for blending with Ceylon tea, in order to increase the flavor and value of the tea of that island. The best-flavored tea produced in India is that grown above an altitude of 4,000 feet and, consequently, the best Indian tea comes from the Darjeeling district, and is known as Pekoe tea. It can hardly be excelled in flavor.

Notwithstanding that the bonus on green tea was taken off by the Tea Association last year, there was considerable green tea produced this year. Those tea planters who produce a high grade of tea deprecate the manufacture of green tea, as it throws suspicion on the tea district where it is manufactured. It would be better for consumers of tea if the green-tea habit were discontinued. There are thousands of acres of land at the right altitude in the Himalayan Mountains that could be made available for the production of tea, and doubtless will be brought under tea culture in time. The only reason why the Darjeeling district has been developed is because of its being made accessible by the narrow-gage road that connects with the broad gage from Calcutta and climbs the mountains to an elevation of 7,500 feet. Whenever the narrow-gage roads are completed into other parts of the mountains vast areas will be opened up for tea culture. It is therefore to be expected that, in time, India will become the great tea market of the world.

FORMOSA.

IMPROVED YIELD THIS SEASON—NEW CURING APPARATUS.

Consul S. C. Reat writes from Tamsui, under date of March 26, on this year's yield of tea in Formosa:

The tea season set in very late last year owing to the continued cold weather. But this year there has been plenty of rain, and the temperature is gradually rising. If the season advances without any sudden changes, some samples of tea of this year will appear in the market at the end of this month or the beginning of April.

Judging from the present state of the growth of tea, it is predicted that this year's tea will be rather better than last year's respecting flavor, color, and shape. The tea merchants of Daitotei have decreased in number during the last few years, but that apparently indicates the union of small tradesmen, owing to the requirements of financial conditions.

A tea manufacturer of Daitotei, Formosa, who had been long engaged upon a device for drying tea, has lately perfected and patented an apparatus. The principal improvement is its drying compartment, which is said to economize fuel, labor, and time.

GERMANY.

ITS CONSUMPTION AND PRICES—USE OF SUBSTITUTES.

Consul-General A. M. Thackara, of Berlin, furnishes the following information concerning the use of coffee and substitutes in Germany:

The consumption of tea in Germany in 1908 was 3,922 tons (or 0.13 pound per head); coffee, 189,671 tons (6.72 pounds per head); and cocoa, 33,685 tons (1.19 pounds per head). The customs duty per 220 pounds on raw coffee is $14.28 and on roasted coffee $20.23.

The consumption of chicory root, fresh or dried (excess of imports over exports) in 1908 was 13,826 tons, at an estimated import value of $32.13 per ton; consumption of chicory and other root substitutes for coffee (excess of imports over exports) 1,107 tons, at an estimated import value of $118.64 per ton. Customs duty on chicory, per 220 pounds: Fresh roots, broken or whole, free; dried chicory, 19 cents; chicory and other root substitutes for coffee, not mixed with other substances, 95 cents. The retail price of chicory substitute in Berlin at present is 10½ cents per 2.2 pounds.

No statistics are available as to the production or consumption of caffein-free coffee. It is not used as extensively as malt coffee, but its consumption is increasing gradually.

The caffein-free product is extensively advertised, and appears to be meeting with success. The extraction of the alkaloid does not appreciably alter either the flavor or the appearance of the bean. The prices are slightly higher than those of coffee proper. This substitute is principally used by coffee drinkers who suffer from the effects of the coffee made from the regular bean. No statistics are available concerning malt coffee, but on account of its cheapness it is extensively used by the working classes, the retail price in Berlin ranging from 6 to 12 cents per 2.2 pounds. A coffee substitute is also made from dried and roasted figs, to be used alone or mixed with coffee proper.

WINES AND LIQUORS.

SPAIN.

SHIPMENTS ABROAD DECREASE, WHILE HOME CONSUMPTION INCREASES.

Consul Robert Frazer, jr., of Valencia, submits the following review of the Spanish vineyard output:

The total exports of Spanish wines during the past year are officially valued at about $16,310,000, of which ordinary red wines represent $4,318,000; Malagas, $2,920,300; sherries, $2,220,500; and white wines, $1,145,000. The changes in tastes of consumers of Spanish wines is evidenced by the continual decline in exports of sherries, which was $1,003,000 less than in 1908, while Malagas continue to gain in favor and improved $1,028,000. White wines also increased $79,000, but ordinary red wines have receded $681,000.

The past season's wine crop is the shortest during the last 20 years, being estimated at slightly under 15,000,000 hectoliters (396,255,000 gallons), the average of recent vintages being computed at 24,000,000 hectoliters (634,008,000 gallons). Hence, though the export demand continues dull, prices of ordinary wines have advanced sharply since the beginning of 1910 from 11 to 20 pesetas per hecto-

liter ($1.98 to $3.60) in this region, and stocks are said to be nearly exhausted.

The exceptional shortage of wine is attributed to neglect of cultivation consequent on long continuance of unremunerative prices, reduced area of vine plantations, and destruction of plants by phylloxera and a variety of cryptogamic pests. Home consumption of wine has also been stimulated by the recent suppression of the heavy octroi or municipal tax on wine entering Spanish cities and which amounted in most cases to over 150 per cent ad valorem.

Exports of fresh grapes amounted to $2,012,200, an improvement over the previous year of $383,000, while raisins reached $3,714,300, an increase of $391,000.

WORLD VINTAGE RETURNS.

LARGE DECREASE IN LAST SEASON'S OUTPUT.

According to the following statistics, transmitted by Consul Percival Gassett, of Jerez de la Frontera, as published by Le Moniteur Vinicole, there was a decrease of 516,188,222 gallons in the output of the wine-producing countries during 1909 as compared with 1908:

Country.	1908.	1909.	Country.	1908.	1909.
	Gallons.	*Gallons.*		*Gallons.*	*Gallons.*
United States	39,600,000	33,000,000	Italy	1,138,472,720	910,756,000
Algeria	171,682,148	181,031,818	Luxemburg	2,640,000	2,398,000
Argentina	27,500,000	24,200,000	Mexico	286,000	242,000
Australia	4,400,000	3,130,600	Peru	2,266,000	2,222,000
Austria	136,400,000	99,000,000	Portugal	85,800,000	68,200,000
Azores, Canary, and Madeira Islands	2,860,000	2,640,000	Roumania	48,400,000	37,400,000
			Russia	61,600,000	52,800,000
Bolivia	704,000	660,000	Servia	10,560,000	14,300,000
Brazil	9,020,000	8,800,000	Spain	407,455,774	324,894,042
Bulgaria	63,800,000	26,400,000	Switzerland	26,400,000	22,220,000
Cape of Good Hope	4,950,000	3,445,200	Tunis	6,556,000	1,544,000
Chile	52,800,000	50,600,000	Turkey and Cyprus	39,600,000	33,000,000
Corsica	6,445,450	5,864,210	Uruguay	2,310,000	2,222,000
Germany	50,600,000	41,800,000			
Greece	39,600,000	48,400,000	Total	2,563,708,092	2,047,519,870
Hungary	121,000,000	42,350,000			

FRANCE.

BIG INCREASE IN PURCHASES BY THE UNITED STATES.

In his annual report, Consul Alfred K. Moe, of Bordeaux, states the total production of wine in the Bordeaux, or Gironde, district amounted to 22,624,671 gallons in 1909, against 222,384,805 gallons in 1908. Regarding the export of wine from that district he says:

It should be of interest to California wine producers to note that the countries adjacent to the United States, as well as countries of South America that are actively engaged in the trade of the Pacific coast of the United States, purchase large quantities of table wines from this district of France. Mexico and Cuba are also heavy purchasers, the former taking nearly twice as much wine as the United States, and the latter four-fifths as much wine in cask. The United States takes a very large quantity of wine from this district in bottles, a larger quantity, in fact, than any other country. The im-

portation of wine from Bordeaux into the United States still falls short of the quantity that Mexico and Argentina take. Cuba, Mexico, Canada, Brazil, and Argentina are excellent wine markets, and the other Central and South American countries purchase in sufficient quantities to make an attractive trade.

The declared value of exports of sparkling wines from Bordeaux to the United States in 1909 was $50,166, against $70,396 in 1908, and of still wines $947,041 in 1909, against $543,135 the preceding year.

ENGLAND.

A NEW MALT AND HOP DRINK.

Consul-General John L. Griffiths, of London, furnishes the following information concerning a new temperance drink now being introduced in England:

There has been recently placed on this market a beverage which it is claimed is nonintoxicating, and still resembles and tastes like the intoxicating beer. It is brewed from malt and hops only and has no preservative in it. It does not look unlike beer, and the taste is very similar. It is made of precisely the same materials as the best English home-brewed ale, but alcohol is almost entirely eliminated, and it is stated that there is no chemical admixture of any kind. The amount of alcohol produced by the brewing process in this beverage is given as nine-tenths of 1 per cent, which is less than the percentage to be found in any of the ginger ales, stone beers, and other temperance beverages.

The process by which this beverage is made is the invention of a French scientist, while certain modifications were made by one of the professors of the Paris Pasteur Institute and an English brewer. Two kinds are made, ale and stout. The ale, it is claimed, has the flavor of a light beer, and the stout tastes almost exactly like a good quality of London stout.

CITRUS FRUITS IN PORTO RICO.

GRAPE FRUIT GIVES GOOD RETURNS ON INVESTMENT.

Special Agent John M. Turner submits the following report on the cultivation of citrus fruits in Porto Rico:

The growing of grape fruit, oranges, and lemons on the island of Porto Rico has developed into a profitable business. However, there are no reliable statistics of cost of production, yield, and net returns. For instance, one grower of grape fruit, known to be very accurate in his statements and careful in his figures, assured me he had this season shipped 4,200 boxes of grape fruit from 7 acres of land, and the net returns had been over $2 per box, how much over he was not willing to say.

Another grower to whom this was related said: "I will show you 3 acres of grape fruit trees that have given me this year an average of 10 boxes to the tree. There are 70 trees to the acre, and I can show the returns on 2,100 boxes of grape fruit taken from those 3 acres to have been over $2.50 per box net." How much over he would

not say, but it was hardly necessary, as a yield of $1,750 per acre is enough for one farm. The grove of which he spoke contains about 40 acres, all in grape fruit, but of different ages. The 3 acres that gave the above-mentioned yield were seven-year-old trees; the other trees ranged from six years down to three.

One grower of grape fruit shipped 4 boxes from each tree of four-year-old trees, and the yield runs from that to 10 or 12 boxes, according to the age of the grove. There is no grove that has withstood a hurricane as yet, as the "San Ceriaco" hurricane occurred shortly after American occupation. Just what effect a hurricane would have on a citrus grove on this island is unknown. It might wipe out the trees, and it might blow off only the crop.

It is claimed that the principal expense in citrus fruit growing in Porto Rico is the maintenance of wind-breaks and fertilization. Wind-breaks are absolutely necessary if the grove is exposed to the prevailing trade winds, which blow continuously for nine months, and which cripple the trees or make them lop-sided unless protected.

The element most lacking in Porto Rican soil is nitrogen, and as nitrogen fertilizer is expensive many growers have used a native pea called the "gandule," which grows quickly, and being a legume helps to store nitrogen in the ground; but it can hardly be called a permanent wind-break, as frequent replanting is necessary.

ORANGES, LEMONS, AND LIMES.

The growing of oranges has been successful and many returns show handsome interest on the investment, yet the returns of native and cultivated oranges are not sufficiently separated to justify compiling statistics. Native oranges are sold by growers at an average price of almost $5 per thousand, and when market conditions in New York justify it they are shipped, bringing from $1 to $2 per box there. The shipment of the native or wild fruit is a hazardous speculation, some years very profitable and others disastrous. I have seen the native fruit hauled into town from the country in bull carts, dumped in front of the exporter's warehouse, then shoveled into barrels, a jute top tacked on the barrel, and away they went to the steamship, to be sold as Porto Rico oranges. Its condition on arrival, the very low price the fruit brought, and the carelessness in packing have all been calculated to throw Porto Rico oranges into disrepute in northern markets.

The budded fruit now going forward is pleasing in flavor, attractive in appearance, and well packed in neat boxes, so it is hoped the former bad reputation may be overcome, and the cultivated fruit be accorded an unprejudiced market. The oranges from budded groves are now bringing about $2.50 per box, which offers a profit to the grower.

Lemons and limes are being sent to the New York market and the returns will justify the extension of the groves devoted to these fruits. Some enthusiastic growers predict that this island will grow all the lemons consumed in the United States in another ten years, but it seems that high land values and slow development of the groves will turn the attention of growers to crops offering quicker returns and surer yields.

APPLE ECONOMIES IN TASMANIA.

AMERICAN MACHINERY USED TO SAVE WASTE IN FRUIT ORCHARDS.

The full utilization of low-grade apples in Tasmania is explained in the following report from Consul Henry D. Baker, of Hobart:

Evaporating low-grade apples for export has lately had a good start in the apple-producing districts of Tasmania and promises much increase. During the past year, on account of the establishment of several good apple-evaporating plants, utilizing up-to-date American machinery, about $500,000 was saved to the apple growers of the State on apples which would otherwise have nearly all been thrown away as unsalable waste on account of low grade. Even the cores and skin peelings of the hitherto waste apples now have a market, being exported to France, where they are used for sauces, vinegars, etc.

I recently visited one of these plants in the famous Huon River orchard district. All the machinery was from the United States. The parers and the corers disposed of the apples as fast as the apples could be fed into them. The apples were then sliced into chips and placed on trays in drying chambers, and then weighed and packed under presses until ready for market.

This is a new industry for Australia, as I understand that there are not as yet any other evaporating plants for apples in the Commonwealth, notwithstanding that Australia is a large producer of apples and imports every year quite a quantity of dried apples from other countries. The plants in the Huon River district at present cater only to the Australian market, and have no trouble in selling their output in the Commonwealth at remunerative prices. The ventures in this industry are said to be quite profitable to those engaged in it, as well as beneficial to the apple producers, who are now able to sell to advantage even the poorest grades of fruit.

MILK MEAL OR DRY MILK.

REMARKABLE FOR ITS FOOD VALUE AND KEEPING QUALITIES.

Consul P. Emerson Taylor, of Stavanger, furnishes the following information concerning the Norwegian manufacture of milk into powder:

A company, capitalized at $160,000, has recently been organized in Christiania for the manufacture of milk meal or dry milk, but it is announced that it will be some time before it begins active operations.

In the meantime, another company has been organized with a capital of $40,000, one-half paid up, which will enlarge the dry-milk plant in operation at Thime, a few miles from this city, and also at Naerbo. These two plants are equipped with American machinery. The plant at Thime has been in successful operation for some time, but the plant at Naerbo is just being installed.

A local paper announces that the new company has contracted with an English firm for the delivery of 300 tons of the dry-milk meal each year for three years. The English company is under contract to aid in the installation of new machinery to give the plants a larger capacity than at present. It is believed that both plants will do a profitable and increasing business, and there should be an opportunity

for the sale of additional machinery similar to the kind in use at present. The abundance of milk in this district, where small farming and dairying are leading vocations, would seem to assure a promising future for the dry-milk industry.

Much is claimed, apparently on the highest authority, for the new product. It is said that milk meal, when dissolved in water and made into new milk has a greatly increased food value over ordinary milk. It is used largely for sick persons and convalescents, on ships, and on expeditions entailing long voyages, because of its keeping qualities under all climatic conditions and its convenience of transportation. A well-known Arctic explorer states that its food qualities and keeping properties are remarkable, and that a quantity thereof remaining when he had returned from the polar regions was as good as when the expedition started.

The product is prepared in the form of a meal-like powder, to be dissolved in water. It is made from skimmed and unskimmed milk, the first being Viking milk and the second Trumilk. The Trumilk or meal when dissolved in water has almost the identical taste of good fresh milk—the difference would not be noticed if one were not advised that it was not natural milk. It is claimed that Trumilk when dissolved in water makes a milk that, after standing for a time, produces cream similar to that of the natural milk.

The analysis of the dry milk by the Christiania National Laboratory gives the following percentage results: Water, 2.46; fat, 26.66; albumen, 26.37; milk sugar, 37.68; mineral matter, 5.85.

WALNUT TRADE OF FRANCE.

DEMAND FROM UNITED STATES CAUSES RISE IN PRICES.

Writing in regard to the walnut trade of the Bordeaux district during 1909, Consul Alfred K. Moe says that the crop was, in the main, of excellent quality and the yield an average one. He continues:

The total exports during the fall season of 1909 are estimated at 175,000 bags, or 19,250,000 pounds. The whole crop was pretty well cleared up before the season ended, and at the present time (April, 1910) there are no stocks to speak of. The average prices per bag of 110 pounds, commission and freight, New York, were as follows: Marbots, $8.49; Cornes, $7.33; Cahors, $7.05.

In walnuts suitable for shelling purposes the crop was a fair average in this district, but owing to a shortage in the Grenoble district the demand for this variety from the United States has been greater than the supply, and the prices have been continually rising; in fact, they are higher than they have been in twenty-five years. The present value of perfect halves is $47.29 per 220 pounds, commission and freight, New York, whereas broken ones fetch $37.63.

Of shelled walnuts there is generally a fair carry-over during the summer months to meet the early fall demand from the United States, but this season there will be very little left for that purpose. The making of advance sales, together with the impossibility of estimating probable cost, has led in recent years to a much disturbed market as well as a rise in prices. Local traders think this avoidable if the American importers would not urge sales before October, by which time the trade is in a position to know about the crop and quality.

SHIPS AND SHIPPING.

TRANSPORTATION ROUTES.

CEYLON.

OPPORTUNITY FOR AMERICAN LINE OF STEAMERS TO ORIENT.

Vice-Consul Chester Arthur Davis, writing from Colombo, points out the great need for an American steamship line to Ceylon via the Philippines:

Colombo, Ceylon, which, according to the latest statistics, vies with Singapore as the greatest equatorial port in the East, has the finest artificial harbor in the world and is so situated on the world's highway as to make it a port of call for ships going to the Far East, to Great Britain, the Continent and America, to Australasia and New Zealand. The total tonnage of ships entering and clearing this port for 1909 was 17,060,081, an increase of 1,013,941 tons over the previous year, while the total value of exports was $48,966,543 and of imports $41,813,865, being an increase of $5,979,158 exports and $1,007,068 imports over 1908. Of the exports the United States took about $7,000,000 worth by direct shipment, but a considerable quantity of exports are shipped through England, the value of which it is impossible to estimate. Of the imports the United States sent about $1,000,000 worth. The United States ranks next the mother country in receiving exports from this island and in imports takes tenth place.

HEAVY SHIPMENTS TO UNITED STATES.

Many of the British houses have offices or connections in the various American ports; as a matter of fact, I know of certain Colombo shippers who depend almost wholly on their American trade. The shipping between the Atlantic ports of the United States and Colombo is carried largely by German lines of steamers, which run direct from Calcutta and Colombo to New York, Boston, and Philadelphia. There are also British lines covering the same route, and both German and British lines from the Far East. The unfortunate feature of the enormously increasing trade between America and Ceylon is the fact that not one pound of export is carried by American ships, simply because a ship flying the American flag, save yachts and naval vessels, has not touched here for several years. When we consider that the imports to the United States from Ceylon in 1909 doubled those of 1908, and unless all indications fail, this year's return will very nearly double that of last, bringing the value to something like $13,000,000, and with every prospect for continued increase, it seems to offer a golden opportunity for an American line of steamers to ply between New York and the Orient.

A local shipper informed the writer that he was strongly in favor of the proposition and believed that the American buyers could more

or less insist on the Ceylon shippers sending their consignments via an American line, but he believes that the great difficulty lies in the fact that the ships would return to the East quite empty. To offset this obstacle, and what seems really a feasible proposition, is a direct line from New York to Manila, touching at Aden, Colombo, Singapore, and Hongkong, and with passenger-carrying accommodations for about fifty persons. From these ports, in addition to what would be shipped from America, and with the passengers, the ships would not return empty. On the homeward voyage the exports from the Philippines, transshipments from Hongkong, exports from Singapore, Colombo, and possibly from Calcutta and Bombay when the new railway across the Gulf of Mannar is completed, which will be in the course of a few months, and from Aden and Algiers, would be a very prosperous trip; then again a direct line of steamers with passenger-carrying accommodations from these ports to America is a crying need.

The Philippine Islands would develop much more rapidly by this connection with the United States. Without direct connection with Great Britain, Colombo and the Island of Ceylon would never have realized their present extremely prosperous condition. The same opportunity lies open for the United States to directly connect with its distant possession, which would prove of great advantage at home, aid in developing the Philippines and the port of Manila, and at the same time promote American interests and commerce in the Orient.

CHINA.

IMPROVEMENT IN THE MAIL AND SHIPPING CONNECTIONS AT TSINGTAU.

Consul Wilbur T. Gracey transmits, under date of March 24, 1910, the following report regarding the increase in shipping at Tsingtau and the improved mail connections with the interior of China and foreign countries.

The annual report of the Chinese customs, which functions in this German port, shows an increase in the number of ships entering and clearing of 82 vessels last year, having risen from 445 in 1908 to 527 in 1909, and an increase in tonnage of 154,046 tons, rising from 551,971 tons in the former year to 706,017 in 1909. This increase is caused principally by increased exports to Vladivostok, to which place large numbers of cattle are being shipped, and partially to the extensive peanut trade carried on with Europe.

The intermediate steamers of the Peninsula and Oriental Steamship Company, a British company, call here monthly in transit to Europe; the regular line Hamburg-American ships make this a port of call; and the Nippon Yusen Kaisha ships for Europe all come here en route. Twelve tank steamers and two sailing vessels called here with kerosene oil in bulk and tins. During the Government's fiscal year from October, 1908, to October, 1909, 43 vessels ran from Tsingtau direct to Vladivostok, an increase of 60 to 70 per cent over the previous year. Direct regular communication with Japan has also been established by a Japanese shipping company. Early in 1910 the Hamburg-American Line established improved connections with the north and south, so that a regular biweekly service is carried on between Shanghai, Dalny, and Tientsin, giving quick through connection with the Trans-Siberian Railway. Mails from Europe

are received and dispatched from Tsingtau twice weekly via Siberia and give a 14 days' regular service from this city to Berlin and Paris; 14½ days to London.

CHINESE POSTAL SERVICE.

Mail service with the interior has also been considerably improved. In the Kiaochow postal district, under the Chinese Imperial Post-Office, 13 new agencies have been opened, and in September, 1909, 21 district postal offices of the first and second class and 50 agencies had been established.

Of special importance is the establishment of a day-and-night courier service between Tsingtau and Chefoo. The couriers cover the 155 miles in 50 hours. Connection overland with Peking and Tientsin is also carried on by couriers, occupying two days for the journey. Mails are sent from Tsingtau to Tsinanfu by rail, and leave twice daily from the latter place via Tetchou to Tientsin and to Shuntefu, where they connect with the Peking-Hankow Railway. This overland route is especially useful during the winter months when the river at Tientsin is frozen and steamship connection can only be carried on through Chingwantao.

Parcel-post systems with all the European cities are carried on, which makes excellent opportunities for the increase of the mail-order business in Europe, but such mail-order business is impossible with the United States, owing to the exorbitant cost of postage or express. A small package recently purchased in San Francisco, which has been brought to my attention, having originally cost $2, was shipped to Tsingtau by post and express, and the receiver was obliged to pay over 600 per cent for transportation charges. It would have come to this place from any European city for 20 cents. [The Post-Office Department at Washington states that "articles of merchandise other than bona fide trade samples can only be sent to Tsingtau, China, when fully prepaid at the letter rate, which would amount to 50 cents for the first pound and 48 cents for each additional pound, regardless of the weight of the parcel."—B. of M.]

FINLAND.

CONSIDERATION OF DIRECT STEAMSHIP LINE—FREIGHT TRAFFIC.

Consul Jacob E. Conner, of St. Petersburg, calls attention to the prospects of direct steamship communication between the United States and Finland, and discusses the commerce of that part of the Russian Empire:

Consideration of a proposed direct steamship line for trade development led to a meeting between several interested parties, the writer, and the manager of the Finland Steamship Company. After some consultation the latter said that he could, to begin with, put on a line of three steamships of 4,500 tons each, to sail every 25 days from St. Petersburg and Helsingfors to New York, provided a minimum of 3,000 tons per voyage could be secured. At present all freight between the United States and this part of Russia must undergo transshipment. Freight from St. Petersburg travels by rail to Reval, Libau, or Riga, or goes by steamship to Hull, England, and is there transshipped for America. If the half of this could be secured by

a direct line it is probable that there would be more than the required amount. Conclusive evidence upon this point can not be given at present, especially with regard to shipments from America. A direct line would do much more than set the statistics right. It would shorten the time of transit, afford the lowest rates, avoid the danger of loss and damage to cargo always incident to transshipment, and, best of all, bring buyer and shipper closer together in the study of each other's demands. It is desired that American shippers should confer among themselves as to whether the establishment of such a line would be welcome to them, and to what extent freight could be turned in that direction if the proposed line should be established.

TRADE PROSPECTS IN FINLAND.

Finland has almost 3,000,000 population, of Scandinavian civilization, though mainly of Finnish origin. While not a wealthy people, they are frugal and industrious, having the wants of an advanced society, and the desire to gratify those wants to the extent of their means. They take great pride in their schools, and the University of Helsingfors has a reputation of excellence. The country, though beautiful and varied with lake and mountain scenery, is not resourceful, except as to its forests and the industry of its people. Although lying far to the north, its fields when arable are well cultivated, and its agricultural wants are largely self-supplied. It is not associated with Lapland, which lies still farther north, either in race, advancement, climate, or productivity.

In foreign commerce the imports of Finland for 1908 amounted to $70,163,220, while the exports were but $48,295,615. For 1909 there was an increase in imports of $675,500 and in exports of $2,605,500.

Helsingfors, the capital, is a modern city, of clean streets, thorough sanitation, equipped with sewerage and waterworks systems, electric-light and street-car service, etc. It has a growing commerce, and a trade journal printed in the English language. A meeting has just been held to organize a national chamber of commerce, for which a government subsidy of 150,000 finmarks ($28,950) has been voted.

There are several lines along which trade development with the United States seems possible, and these will be considered in order.

FLOUR, TOBACCO, AND GRANITE.

Next to Holland, Finland is the best customer for American flour on the continent of Europe. It has no mills for grinding wheat and imposes no import duty on flour. The annual import of flour is placed at 800,000 sacks of 100 kilos (220.46 pounds) each, and of this the American miller furnishes about one-half. The writer was told by the leading importer that with certain obstacles removed American flour could take nearly the entire trade. The obstacles are chiefly those of transportation. He complained that shipments from the United States are delayed so long that he has been obliged to pay for the cargo before the goods arrived or lose the thirty days' discount. He says that the delay is not so much in ocean transportation as in the railways of the United States. On the contrary, the importer can calculate to a day upon the arrival of a consignment from France or any other European country, and does not have to order so far ahead. He says that American flour is very popular in Finland, and the prices compare favorably with those of other countries. The trade prefers cloth instead of paper sacks, which should have attention.

The unmanufactured tobacco imported into Finland in 1908 reached the total of 1,566,090 pounds, of which the greater part was "filler" stuff for cigars. The import tables show that only a small part of this came from Russia, while the greater part come from Hamburg and Copenhagen. The latter is mainly American tobacco. It has gained considerably during recent years, while its chief competitor has gained little. According to the statistics there is no apparent gain, inasmuch as it is all accredited to the port of transshipment. There is more to be done here in this direction.

For many years Finland granite has been shipped to Scotland, and there transshipped to the United States, where it is known as Scotch granite. The splendid columns of the St. Petersburg cathedrals and the famous Alexander column near the Winter Palace are all of this material. Importers of this granite into the United States might do well to deal directly with the country of origin, especially if by means of direct shipments a more favorable rate can be secured.

PULP WOOD AND WOOD PULP.

Finland produces pulp wood and exports it to other European coutries. Transportation charges to the United States, while not prohibitive, are enough to make competition with Canadian pulp wood practically impossible. The cost f. o. b. Helsingfors on 1 cubic fathom pulp wood (216 cubic feet) is 52 finmarks ($10.03), and the minimum freight rate on this commodity from there to the Atlantic seaboard of the United States is 60 finmarks per cubic fathom ($11.58 per 216 cubic feet), making the total cost delivered at the Atlantic seaboard 10 cents per cubic foot. According to a statement by an American purchaser of pulp wood, the cost of Canadian pulp wood delivered at his mill in New York State is $3.60 per cubic meter (35.31 cubic feet), or 10 cents per cubic foot. In other words, the cost of the pulp wood is just the same, the Canadian product being able to reach the mill of the consumer instead of the seaport, and probably able to do better than that if the Finland product were quoted lower.

The manufacturers of wood pulp in Finland point to this demonstration of the situation in support of their claim that the recent decision of the Government to impose an export duty on pulp wood is not a discrimination against the United States. This duty,[a] which went into effect on May 14, can not, they say, be a discriminatory duty when the transportation rates are already practically prohibitive. For this reason they hope that the United States will not impose any higher rates than those existing against the importation of wood pulp. They are ready to supply from 8,000 to 10,000 tons of wood pulp per annum, and with increased facilities could do much more, as there are large forests in Finland and the neighboring Province of Archangel which are quite accessible and which can be used for nothing else.

RUSSIA.

GERMAN COMPANY TO OPERATE ON RIVER DNIEPER.

Consul-General Richard Guenther, of Frankfort, says that a group of German capitalists has formed in Berlin a shipping line, whose steamers are to ply on the River Dnieper and its confluents in

Russia. A shipyard and marine workshops are to be erected there. The share capital of the company is to be $1,428,000. The steamers will be of most modern type, and are expected to excel in every way the Russian craft employed in the navigation of that region.

GREECE.

INCREASED AMERICAN TRADE DUE TO DIRECT COMMUNICATION.

Vice-Consul Haworth J. Woodley, of Patras, furnishes the following information concerning the growing trade of Greece with the United States:

The regular weekly service maintained between Patras and New York by the Austra-Americana Steamship Company, the frequent sailings of The National Steam Navigation Company (Limited), of Greece, and the Hellenic Transatlantic Company, have resulted in a corresponding increase in passenger and goods traffic during the past year. These increased transit facilities, both to and from the United States, have also given stimulus to shipments of all classes of merchandise produced in this country and in the Near East.

The emigration and cargo traffic from Patras to the United States in 1909, as compared with 1908, were as follows: Emigrants 25,925, an increase of 22,322; cargo shipped 30,500 tons, an increase of 8,500 tons; steamers cleared 92, an increase of 52. Cargo and passengers are brought by coasting steamers from such Turkish ports as Smyrna, Cavalla, and Saloniki, also from all the surrounding islands and adjacent Greek ports to Patras for transshipment to the United States.

The average rate of freight from Patras to New York is 17s. ($4.14) per ton on currants and 20s. ($4.866) on general cargo. From New York to Patras occupies about fourteen days, and the frequent and improved transit facilities between those two ports, and from Patras to all parts of the Near East, merit the attention of American travelers, manufacturers, and exporters desirous of visiting and finding new markets for their products.

PORTUGAL.

PROFITABLE OPPORTUNITY FOR A DIRECT STEAMSHIP LINE.

Consul-General Louis H. Aymé, of Lisbon, in the following interesting letter, calls attention to the need of a direct steamship line between Portugal and the United States, and its prospective establishment.

The newspapers of this city have lately published an extract from a report of the Portuguese minister in Washington to the effect that the firm of Grace & Co. intended to establish a direct line of steamers, passenger and freight, between New York and Lisbon. This announcement has aroused much interest and I have had two applications, from prominent firms desiring the agency, for further particulars, which I was unable to furnish.

Such a line of steamers would ultimately prove very profitable. The declared exports from this city for the last six years average over $5,000,000 a year. This freight has been carried to the United States, in great part, on through bills of lading via English or German ports. The remainder went by chartered steamers, chiefly

chartered by the Gans line. The number of these steamers increased more than 20 per cent in 1909 over 1908, and this year promises an equal increase over last. Therefore, there is no doubt that a regular line of steamers, with two or three sailings each month, would have full cargoes for the United States.

The difficulty would be in securing large cargoes from New York to Lisbon. There would be a probable loss in this direction for some months, until it was certain the line would continue. I have not the slightest doubt that the imports into Portugal from the United States would be enormously increased if there were regular and direct communication between the two ports. Such a line might make a stop at the Azores, and, after leaving Lisbon, might go to Oporto, where large quantities of cotton are received, or to Barcelona, or other Mediterranean ports.

DESIRABLE ROUTE FOR PASSENGERS.

The passenger traffic would also prove very profitable. Twice a year there is an enormous rush of passengers, first from the United States to Europe and, some months later, returning. Very many travelers, if they knew there were comfortable and regular communication to Lisbon, with the pleasant stop in the Azores and the advantages of the southern route, would be glad to come to Europe via Lisbon, and in the same way many would return from Europe through Lisbon, avoiding the Channel crossing to England. In addition, Portugal itself offers a little known and most interesting country for tourists to visit. It has thousands of miles of very good roads and many places of great interest to visit. The trip from Lisbon to Paris by automobile has been made very frequently. One very wealthy American living in England always comes here in that way, accompanied by his wife, and finds it more comfortable and pleasant than by the famous Sud Express.

The Sociedade de Propaganda de Portugal is now actively engaged with measures looking toward the betterment of the existing very good hotels in this city and Oporto and the establishment of others throughout the country, the upkeep of the roads, and, in general, everything which would tend to attract tourists and satisfy them when they come.

This is a most favorable time for the establishment of direct communication between the two countries. If the Portuguese minister's information is correct, and Grace & Co. will send a competent representative here, this consulate-general will be glad to assist him in looking over the field, and it is believed that such a line would finally prove a profitable investment.

CANADA.

NEW LINE TO CONNECT WITH TEHUANTEPEC ROUTE.

Consul-General George N. West, of Vancouver, notes the formation of the Canadian-Mexican Pacific Steamship Line to ply between Vancouver, British Columbia, and Salina Cruz, Mexico. He adds:

There will be connections with several European lines, also eastern Canadian steamships, via the Tehuantepec National Railway. It would appear to be the endeavor to build up these steamship lines and railway connections in advance of the completion of the Panama Canal to such a standing that this route will be a formidable com-

petitor with the canal on its completion, except for vessels with full cargoes bound to European or eastern American and Canadian ports.

The proposed four-tracking of the railway across Mexico from Salina Cruz to Puerto, Mexico, would place the railway in a position to handle a large amount of freight, and without doubt a large amount of the wheat from Alberta and Saskatchewan Provinces for 1910 will be shipped to the various markets through the port of Vancouver, and large amounts of the supplies for this Province will be brought in by the above-named route.

ARGENTINA.

ADDITIONAL VESSELS FOR LINES FROM EUROPE.

From Buenos Aires, Consul-General R. M. Bartleman reports that Houlder Brothers & Co., one of the most important British firms in the River Plate shipping business, announces that it has contracted for the construction of 10 new steamers, on which he comments:

While they will be used to compete with the new Nelson Line boats in carrying chilled animal products, chiefly beef, to England, the new vessels will also be well fitted for passengers. Argentina's natural healthy growth constantly necessitates increased shipping facilities with the world's leading manufacturing centers, as well as with the countries which are becoming more and more dependent on her for their food supplies. The increasing tourist traffic from Europe and the United States to South America—witness the recent trip of the large German steamer Blücher, the largest passenger boat that ever visited the River Plate—must also be accommodated, and many rumors are afloat that other British lines, as the Royal Mail, are contemplating increases in their fleets to meet the growing passenger traffic occasioned by the completion of the Trans-Andine Railway, which brings Buenos Aires within 38 hours of Valparaiso, and connects two of the most important of South America's railway systems.

HARBOR IMPROVEMENTS.

ARGENTINA.

PUERTO ARGENTINO AT THE MOUTH OF THE RIO DE LA PLATA.

The following information concerning the building of a deep-sea harbor in Argentina is furnished by Consul-General R. M. Bartleman, of Buenos Aires:

The Argentine Government has just approved a contract with the Port Argentine Great Central Railways Company (Limited), by which the latter agrees to construct, within the next five years, a deep-sea harbor, where boats drawing 30 feet can enter in ordinary low water, on the estate called Rincón de Lopez, near Punta de las Piedras on Samborombon Bay, nearly opposite Montevideo. This company is capitalized at $19,466,000 in shares and $38,932,000 in debentures. The Paris banking firm which is now building the Letschberg tunnel to connect with the Simplon has subscribed all the money necessary to complete the first section of the port, and a French banking syndicate has contracted to build the port works and will send dredges to Samborombon Bay at once to begin operations.

The port will be composed of a series of parallel docks, of the same level as the entrance channel and situated on either side of it, with

embankments to be built along the channel to allow the ships to pass freely and to facilitate loading and unloading. The docks are to be 1,640 feet apart, 3,215 feet in length, and 1,050 feet in width. The entrance channel runs east by west, almost parallel with the coast line; its total length will be nearly 50,000 feet; its depth will be 328 feet in the middle and 33 feet along the walls. The moles are to be hard Australian wood, already contracted for. There are to be thirteen storage sheds of wood and galvanized iron, to be built at the same time as the docks, whose capacity will be approximately 100,000 tons, representing a total movement of 800,000 tons per year. Three railways will be laid down in front of these sheds, and the goods will be loaded into the cars from the ships in the docks and channel by cranes. The motive power will be electricity, supplied by a central power house with installations for 500 horsepower, which can be increased as the port works are extended. It is planned to build several short railways in the port for use of various steamship companies. The port dues are not to exceed those of Buenos Aires.

The company will have the exclusive use of all land situated within 9.3 miles around the port; land necessary for custom-houses and other government buildings, coal deposits, streets and parks, and other public purposes being reserved for the Government. All such structures and public improvements are to be laid out in accordance with a plan to be approved by the President of the Republic. Not less than $15,572,000 must be spent on the entrance channel. The port is to be called "Puerto Argentino," and will become the property of Argentina after 99 years.

A model city will be built by the company around the new port. Land is being sold there now for $2.50 a square foot, and its value is rapidly rising. The 9.3 square miles bought by the company cost it $316,322.

An Australian firm is planning to erect a large slaughterhouse in the new city, and many other enterprises are planned, including grain elevators, a large hotel, an electric light and power company, a bathing beach, and other necessary adjuncts of a modern, busy seaport.

In addition, the company plans to build a dry dock of sufficient size to accommodate the two new Dreadnoughts now being built for the Argentine navy in the United States. A Cardiff coal company has already secured the right to erect a large coal deposit on the company's land. Whether this is an exclusive right is not stated.

Not merely will a new port be thus given to Argentina, but the rich hinterland of Samborombon Bay will be developed and Buenos Aires and La Plata have a new outlet. [A plan of the new port, transmitted by Consul-General Bartleman, as well as the names of the various firms referred to in the foregoing report, will be furnished to those interested by the Bureau of Manufactures.]

URUGUAY.

GOVERNMENT CONSTRUCTING IMPROVEMENTS AT LA PALOMA.

Writing from Montevideo, Consul Frederic W. Goding says that the Government of Uruguay has declined the bids for port works at La Paloma, Bay of Arrecife, and is proceeding with their construction, as follows:

(1) A large breakwater of masonry, at starting point on island of La Paloma, built of concrete blocks weighing 40 tons each, extending 350 feet. (2) Dredg-

ing to a depth sufficient to allow large ocean-going steamers to enter Arrecife Bay. (3) Dredging a channel from the bay to harbor of La Paloma (within the breakwater), 160 feet long, and dredging the harbor to accommodate river steamers. (4) Construction of a wharf with a surface of about 10,000 square feet, for loading and unloading, cranes, railways, etc., and a warehouse occupying 7,535 square feet. (5) A harbor light at end of breakwater, buoys, etc.

[Concerning proposed railway from La Paloma, see page 120.]

MEXICO.

GOVERNMENT IMPROVING HARBOR OF TAMPICO.

Consul Clarence A. Miller furnishes the following information concerning the present condition of the harbor of Tampico:

The growing importance of the port of Tampico is fully recognized by the Mexican Government. Plans are continually being made and money liberally spent for the betterment of this great natural harbor. In February a dredge was purchased and has already commenced the work of cleaning out the harbor and the channel of the Panuco River to the custom-house wharves. The channel will be made 23 feet deep. A corps of surveyors has been at work and made a survey for the remodeling and rebuilding of the harbor piers. The jetties will be cemented and extended 200 meters (656 feet).

New wharves and a new custom-house have recently been built at a cost of about $6,000,000. The custom-house is said to be one of the finest in the world. Modern appliances have been installed at the wharves for the handling of freight, among these a large crane which can be moved from one end of the wharves to the other. It is also proposed to use electric cars to assist in the handling of the freight. [Rules governing the entrance of vessels into the harbor during the continuance of the dredging, transmitted by Consul Miller, are on file in the Bureau of Manufactures.]

CANADA.

EXTENSIVE PLANS FOR MONTREAL HARBOR IMPROVEMENTS.

Vice-Consul-General P. Gorman makes the following report on the comprehensive plans for developing the harbor of Montreal at a cost of $12,000,000 to $18,000,000:

The Government has made a loan of $6,000,000 to the Montreal Harbor Commission to commence the work. During the past eleven years some $10,000,000 has been spent on harbor improvements. The board of consulting engineers recommended that the period of construction be extended over eight to twelve years, at the rate of $2,500,000 per year. The chief features of the plan include:

High-level quays to give berths for 24 ocean-going vessels of 600 or 800 feet long, with an aggregate frontage of 16,880 feet. New low-level quays, 5,800 lineal feet. Combined area of low-level and high-level extension, 74 acres. New sheds, floor area, 1,386,000 square feet. Two new elevators with extensive conveyor systems, with a combined capacity of 2,000,000 bushels. Additional high-level railway tracks on the wharves 22 miles long. A bridge extending in sections from the foot of St. Peter street to the south shore, touching on Bickerdike pier, Guard pier, and St. Helen's Island; this bridge to accommodate four railway tracks, provide for railway and electric transportation, vehicular traffic, and establish a boulevard. A dry dock and ships' repair yard on the Guard pier, changing the entrance to Lachine Canal. Arrangement for entrance of Georgian Bay Canal at the west end of the Guard pier, near Victoria Bridge. Dredging of harbor to a uniform depth of 35 feet.

The plans for 1910 are:

Grain elevator, 2,000,000 bushels capacity, between Jacques Cartier and Victoria pier, appropriation for first year $800,000. High-level railway tracks from Victoria pier to Hochalaga, appropriation for first year $200,000. New Victoria pier and market basin, appropriation for 1910, $400,000. Completion of Dominion Coal Company wharf at Hochalaga. Floating dry dock, with lifting capacity of 25,000 tons net, and able to dock the largest vessels afloat. Ship repairing yard.

[A small diagram showing the harbor improvements was forwarded and will be loaned to those interested by the Bureau of Manufactures.]

FRANCE.

EXTENSIVE SCHEME PROPOSED BY BORDEAUX CHAMBER OF COMMERCE.

Consul Alfred K. Moe, of Bordeaux, in his annual report on the commerce and industries of that French district, gives the following particulars regarding proposed port improvements:

The plans include the deepening of the channel, the construction of new deep-water quays, docking facilities, tide-water basins, railway connections, and spurs for the various docks and quays. An extensive scheme, presented by the chamber of commerce and awaiting the approval of the Government, embraces the following work: (1) Reconstruction of all the quays southward from and including the quai neuf; (2) construction of a new quay 200 meters (220 yards) long, between the extremity of the southern quays and Bordeaux bridge; (3) excavation of a ship canal 26 feet deep between the Bordeaux docks and Grattequina, a deep-water position in the Garonne, five miles below Bordeaux, and the construction of a riverside quay at Grattequina; (4) purchase from present proprietors of the Pauillac wharf by the Chamber of Commerce; Pauillac is on the Garonne (Gironde) River, 30 miles from Bordeaux, and is the ocean port for Bordeaux; (5) deepening of the river between Pauillac and Bordeaux; (6) construction, eventually, at the mouth of the Gironde of a harbor of call for large steamers not proceeding to Pauillac or Bordeaux.

These improvements, even if undertaken after approval, will require several years for completion, as the work would be of considerable magnitude and involve enormous expense. It is considered, however, that they are vitally necessary if this port is to retain its hitherto important position. The constantly growing importance of the Central and South American, as well as the African, trade demands the improvements planned. Bordeaux is the logical point of departure for the lines to Central and South America and Africa. Three great railway lines connect it with all the great industrial centers of France, Germany, Belgium, Switzerland, and Italy. The rapid transportation facilities on these trunk lines are complemented by the direct steamship lines whose vessels touch the chief ports of the west coast of Africa and continue to Brazil and the ports of the Plate River

HAVRE.

INCREASING TRADE RELATIONS WITH THE UNITED STATES.

Consul James E. Dunning furnishes the following information concerning the improved shipping and trade conditions of Havre:

Havre maintains its position as one of the great ports of the world, and the second in France, despite recent labor troubles and

certain temporary irregularities of movement in the foreign markets for various important staples of which Havre is the European clearing house.

During the first three months of the present year the work of deepening the channel of the port continued, and a further advance was made in completing the sheds and other external features of the new transatlantic dock and landing pier. These improvements will make Havre the best port on the north French channel coast, and the way will then be clear to have the American mail steamers call here to embark and debark their passengers only a short three hours from Paris, where now about seven hours is required over the single-track railroad line to Cherbourg.

Meantime additional calls for more extended freight service between Havre and various American ports goes on. For some months the weekly service of the French line has been in successful operation, and there is now a strong demand for facilities which will handle American freights not taken by that company.

The shipping tonnage for the consular district, including Cherbourg, for the first three months of 1910 was as follows: Entrances and clearances, French, 494,626 tons; foreign, 2,565,219 tons; total, 3,059,845 tons. Even deducting the preponderance of foreign bottoms in tonnage of passenger and mail boats calling at Cherbourg French bottoms do not make anything like an equal showing with the traffic carried on under foreign flags. No American vessels are covered by these figures, except those of one line in its weekly trips between England and New York, which call at Cherbourg.

Havre is the great cotton market for France, the imports during the quarter ending March 31, 1910, being 970,453 bales, of which 678,785 bales were American and 151,825 Indian. The coffee in stock in Havre at the end of the quarter was 3,029,413 sacks, of which two-thirds was Santos.

THE BRAZILIAN NAVY.

A WAR SHIP TO BE CONSTRUCTED BY PUBLIC SUBSCRIPTION.

In reporting on the completion in Great Britain of one of Brazil's new dreadnaughts and the approaching completion of another, Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the building of a war ship by public subscription:

On April 18 a popular subscription was opened throughout Brazil for raising a fund of about $9,000,000 for constructing and equipping a man-of-war, of the most recent type, for the Brazilian navy. The Brazil Naval League, which has taken the matter in hand, expects to raise this fund as follows: A sum of 30 cents per head of the population, estimated at 20,434,000, would give something more than two-thirds of the amount required. The States and the municipalities and divisions in the States are also expected to contribute, the former $9,000 to $60,000 each, according to populations, and the latter about $30 each. The Federal Government is expected to contribute about $2,227,000.

CANAL PROJECTS.

CANADA.

ENORMOUS TRAFFIC CARRIED ON THROUGH BORDERLAND WATERWAYS.

The following data were secured by Consul Henry C. A. Damm, of Cornwall, from Canadian government statistics for 1909:

The freight traffic on the entire canal system of Canada amounted to 33,720,748 tons, an increase of 16,217,928 tons over 1908, while in 1900 it was only 5,013,693 tons. Of the total volume 27,976,399 tons were down or eastbound, and 5,744,394 up or westbound; 5,113,508 tons were carried from Canadian to Canadian ports, 1,668,609 from Canadian to United States ports, 24,370,748 from United States to United States ports, and 2,567,883 from United States to Canadian ports; 22,507 Canadian and 9,996 United States vessels passed through the Canadian canals.

In 1900 there passed down the Welland and St. Lawrence canals to Montreal 244,661 tons of agricultural products, while in 1909 the tonnage was 652,742. Last year 97,371 passengers were carried through the St. Lawrence canals.

Of the 2,410,629 tons of freight moved on the St. Lawrence canals last year, 12,877 were farm stock, 509,157 forest produce, 472,656 manufactures, 642,209 produce of mines, 773,730 agricultural products; 1,710,797 tons originated in Canada, 699,832 in the United States; 8,135 Canadian vessels (4,046 steam and 4,089 sail) and 1,136 United States vessels (634 steam and 502 sail) were engaged in carrying this freight. The total tonnage of the former was 2,476,977, and of the latter 489,232.

BELGIUM.

PLANS TO CONNECT LIEGE AND ROTTERDAM, AND ANTWERP AND THE RHINE.

Consul H. Abert Johnson, of Liege, writes that indications point to inland waterways playing an important rôle in the development of industries in that section of Europe, and gives the following information in regard to projected canals:

It appears that the Netherlands is strongly urging the canalization by Belgium of the Meuse from Vise to Keesnich, a distance of 39⅛ miles, in order to facilitate inland navigation from the Liege industrial region to the port of Rotterdam, which has become a formidable competitor of Antwerp. The freight service from the basin of Liege to Antwerp is at a disadvantage as compared with that to the Dutch port. Freight rates are lower from Liege to Rotterdam than to Antwerp, notwithstanding the distance between Liege and Antwerp is shorter.

If the waterway communication between Belgium's most important industrial center and the port of Rotterdam is to be improved it is asserted that Belgium should be adequately compensated. To accomplish this it is suggested that Belgium be given the right to construct a canal crossing Dutch territory and forming connections between the Rhine and the Meuse that would permit direct traffic by canal from the Rhine to Antwerp.

The Germans are strong supporters of this project, and the plan most favored is that of a Crefeld architect, according to which the canal would start from the Rhine at a point between Dusseldorf and Duisberg, crossing the Meuse at Venlo, where the river has a width of 492 feet; here the valley of the Meuse would be spanned by a viaduct 43½ miles in length. This section it is stated would constitute the heaviest portion of the work that Germany would undertake

at its own expense. The project would require a minimum length of canal construction on Dutch territory, that is, a section from Venlo to Meyel, a distance of but 1¼ miles, in order to make a junction with the Canal du Nord connecting directly with Antwerp.

A canal built in conformity with this plan would follow practically a straight line from Crefeld to Antwerp. It would be 172 kilometers (107½ miles) long and would shorten the distance by inland waterway between these two points about 50 per cent.

TURBINES FOR NAVIES.

AMERICAN INVENTION TO BE TESTED BY THE BRITISH ADMIRALTY.

Consul J. N. McCunn notes much interest regarding the innovation in turbines, being put into practical operation by a large shipbuilding firm on the River Clyde, near Glasgow, in connection with work for the British Admiralty.

The new second-class cruiser Bristol has been ordered to be fitted with Curtis turbines, an American system, the patent holders in the United Kingdom being the firm alluded to. It is said to be the expressed desire of the Admiralty to thoroughly test the American invention. Some new torpedo destroyers are also to be fitted with these turbines, orders having already been given for similar equipment for four ships of this class. The result of the experience which the Admiralty will gain from this departure will be closely watched by Scottish shipbuilders, inasmuch as the ultimate adoption of the American system would have a significant bearing on war-ship construction.

FOREST PRODUCTS.

THE RUBBER INDUSTRY.

MEXICO.

ACTUAL CONDITIONS OF PLANTATION ENTERPRISES IN VERACRUZ.

Inquiries having been received on the progress of rubber plantations in Mexico, Consul William W. Canada, of Veracruz City, has prepared the following for the Mexican State of Veracruz:

What the approximate acreage is in this consular district in which the rubber-planting industry may be successfully carried on, and what the approximate acreage is now under cultivation, are questions to which no concise or definite answers can be given. There are no official records to show this.

The State of Veracruz embraces 15,320,200 acres. How much of this is suitable for rubber planting has not yet been discovered. However, the rubber plantations operated by the numerous American and other companies have usually been located in the "tierra caliente" (hot lands), but more properly speaking "low lands," and not in the higher regions. Information from good sources would lead one to estimate that about 50,000 acres has been actually planted with rubber trees from the time that the "boom" started in 1897 to the present. Of this number more than one-half of the acreage has been abandoned, having proved a complete failure, and of the rest it may be said that the rubber produced is just about sufficient to cover working expenses, and at the present prices for crude rubber there may even be a fair margin of profit for some of the planters. Those who are still continuing work are trusting to what the future may do for them.

AGE FOR TAPPING—COST OF CULTIVATION.

The age at which sap may first be extracted from the tree, and the age at which it yields the greatest quantity, are also subjects continually discussed, without arriving at any definite answer. It is the opinion of experienced rubber planters that the "Castilloa" tree should be tapped at six years. In some few localities it may be sufficiently developed to admit of tapping at five years, or even at four; but in the latter case the rubber has proved of inferior quality. Wherever and whenever a tree is not sufficiently developed for tapping at the age of six years, it should not be taken into account, for it is proof that conditions have not been favorable to its development. A tree that will yield a fair quantity of sap at six years may be reasonably expected to increase that yield by 10 to 15 per cent for the following four to six years; beyond the age of twelve years nothing exact is known of the possible production.

The approximate cost per acre for cultivating rubber trees until the yielding period, and the amount of revenue which may be derived

therefrom, varies according to localities. In some sections in this district the tree ought to be brought to the age of six years for 15 to 30 cents gold for all outlay on the plantation; this wide difference being in cost of labor, which is higher the nearer a plantation is to a town or city. It ranges from 25 cents to 62½ cents gold per day. It costs on an average about $8 gold per acre to tap and cure rubber. These figures are based upon the present knowledge of the industry, but no properties now of the producing age were managed as cheaply formerly as the work may be done now. Of course this knowledge has been acquired by costly experiments, which usually resulted in failures.

YIELD AND PRICES.

Take, for example, 250 trees to the acre. At six years they would produce no more than one ounce of rubber per tree for each tapping, and, as under favorable conditions they will stand this twice a year, the yield per tree would be two ounces a year, or 31.25 pounds from one acre. The value of this rubber at the point of shipment has ranged from 45½ to 79½ cents, United States currency, per pound, or $14.22 to $24.84 per acre per year. These prices varied little for years past, but recently the value has taken a prodigous leap upward, and the present price of rubber, as invoiced at this consulate, has reached the unprecedented figure of $1.48, United States currency, per pound. This sudden rise in the price is something extraordinary, and may have been caused by speculation. Representatives of English companies have appeared in this district negotiating for the purchase of rubber plantations.

The transportation of rubber from the interior to point of embarkation on the coast has never been considered a problem requiring serious attention, owing to the limited quantities produced. It is transported by carriers, burros, canoes, express, and railway.

The amount of American capital now invested in this industry and in this consular jurisdiction is a matter of conjecture only. The money invested by shareholders in the United States in rubber plantation schemes can not be less than $10,000,000 gold; the amount actually employed in planting rubber, however, is quite another matter. It is my opinion that $500,000 gold would about represent the sum actually employed in tree planting and cultivation. One of the reasons for this discrepancy between stocks sold and money invested in planting rubber is that, when it became evident to a number of companies that tried to raise rubber that their enterprise had resulted in failure, some of the companies diverted their capital into other channels, as, for instance, the planting of sugar cane, sugar making, and the production of alcohol.

GENERAL REMARKS.

The foregoing information, obtained from what are considered reliable sources, is submitted in reply to specific questions, but as a further explanation of existing conditions in rubber production in this part of Mexico, even going slightly beyond the limits of this jurisdiction, it would be well to give some additional details of the business.

Americans, as well as people of other nationalities, began planting the native "Castilloa" rubber tree in this part of Mexico in 1897. It was then found growing wild nearly everywhere in these Tropics,

and hence it was assumed that most of the district was suited to its culture. Time has proved that this was an error. The tree will not thrive so as to be a commercial proposition unless it has a light, reasonably rich, and very deep soil, with a minimum rainfall of about 100 inches. Good drainage is absolutely necessary. Not 1 per cent of the territory in this district is thus favored in every respect. In a limited number of localities the tree has done well and attained a height of more than 50 feet in six years, but these were exceptional cases, and occurred on small holdings that possessed the necessary requirements.

As already stated, it is the opinion of some planters of experience that the "Castilloa" tree should be tapped at six years; in some instances earlier. The yield, however, was a disappointment, and not in a single instance was the expected quantity of rubber obtained. Planters confidently counted upon a yield of about eight times the quantity actually obtained. While it can not be denied that in some isolated cases trees have been known to produce one-quarter to one-half pound per tapping, it is equally true that one ounce per tree for each tapping, or two ounces per year, is about the average maintained over large areas planted. On the other hand, the extraordinary and sudden rise in the price of crude rubber will enable some planters to continue, especially those fortunate enough to be located in favorable localities, for the price of crude rubber at present is about three times as great as it was for years past.

MANAGEMENT OF PLANTATIONS.

As in every other new enterprise, a difference of opinion will always exist as to what is best to be done for accomplishing a given object, and of course the matter of cultivating rubber is no exception to the general rule. An expert in this line recently expressed himself to the effect that, aside from the soil, the atmosphere and winds were important factors not to be ignored. His experience had shown that rubber trees thrive best with a reasonable amount of shade, and he advocates windbreaks for that purpose. Fruit trees may be utilized for this protection. And again, he differs with others in that he recommends tapping trees not before they have attained the age of 12 years, for thus they will have time for gathering vitality and will become good producers. However, time only will tell what would be best to do in Mexico, for that which may be advantageous in one part of the world may not be advisable in another. The worst feature of the Mexican rubber situation is that 90 per cent of the numerous plantation companies that have operated in this consular jurisdiction were managed in an incompetent and even corrupt manner, and the selection made of the lands for planting was, to say the least, injudicious. Perhaps millions of trees were set out on worthless sand or on shallow soil underlaid with rock and clay, and where there was no drainage after the heavy tropical rains. Many of these plantations are entirely worthless, and few of the remainder will ever pay more than working expenses.

TYPICAL PLANTATIONS.

A few concrete examples will best explain the present situation.

Plantation A.—This plantation is situated in a favorable locality, has had good care, and is paying on actual cost, but its promoters issued shares at a high figure per acre in the early days, when it was taken for granted that a tree at

the age of 6 years would surely produce 1 pound of rubber per year. The fact is that at present, as already mentioned, the production will not average more than 2 ounces. The high price of rubber just now enables this company to pay its shareholders a fair rate of interest, but not by any means the fancy one anticipated. The promoters have sold out the stock to the general public, and when prices again drop to a normal figure, the stockholders will find it necessary to reorganize their company and reduce its capitalization by about three-fourths.

Plantation B.—This is also situated in a favorable locality, and has been carefully attended to, besides not having been stocked beyond its cost. The shares have not been on the market and the owners will continue to receive a fair return on their investment.

Plantation C.—The plantation referred to is now paying on its cost. It was started with money borrowed at high rates of interest in the belief that the trees would yield a fabulous return. The company has been undeceived, and unless it can find a purchaser while the present high prices of rubber prevail (and in such an event the present owners are nevertheless bound to lose), the company must go into bankruptcy.

Plantation D.—Here is a plantation located upon a clay soil, and the trees have not done well. Many have died and others are stunted in growth; only a minority of them produce rubber in paying quantities. As the company is capitalized at a high figure, it must go to the wall unless it develops a profit in other directions to offset its failures in rubber.

Plantation E.—This company was simply a stock jobbing concern. It was advertised as being interested in cattle, cane, and rubber, but the money that was not consumed in office expenses, salaries, and advertising went almost all into cane, as this promised the quickest returns for immediate dividends. Yet, owing to bad transportation facilities and probably other causes, the venture proved a complete failure, and the plantation is now in a receiver's hands. When sold the property will not realize more than about 2 to 3 per cent of the capital invested, and this will barely suffice to pay the legal costs.

Plantation F.—This company planted its trees on shallow soil, exposed to the north winds. At present prices for rubber the plantation can just about pay working expenses, and hence the company turned over the property to its principal creditor, who now secures a small income therefrom by personally attending to it.

Plantation G.—The location of this plantation is in point of suitability similar to the foregoing, and pays working expenses now; also a small salary to the manager, who happens to be the heaviest stockholder and has been able to defer going into bankruptcy for the reason that most of the other shareholders are his personal friends.

STATISTICS OF OUTPUT.

The foregoing examples typify the best properties and therefore no instances need be given of others, as they are simply either closed up or have been abandoned entirely. Laborers may be found on them who have the privilege of taking what rubber they may find for taking some care of the place.

From government statistical sources, the latest data obtainable, it is known that the entire production of rubber, wild and cultivated, in the State of Veracruz for 1908, amounted to 387,417 pounds, apportioned to the several counties as follows: Acayucan, 26,400; Cordoba, 220; Cosamaloapam, 91,258; Jalacingo, 66,000; Minatitlan, 4,400; Misantla, 20,240; Papantla, 88,000; Tuxpam, 44,660; Tuxtlas, 39,000; Veracruz, 2,239; Zongolica, 4,400.

After careful consideration of all the facts, as far as known, relative to rubber culture in this State, and also when considering that the localities from which the greatest production has been drawn are not in the sections where rubber-planting companies have set out trees, but in the wilder portions of this territory, it is my unbiased opinion that certainly not more than 20 per cent of the rubber produced in this State during 1908 was derived from cultivated trees. This I consider a liberal concession to the planters.

HONDURAS.

PREPARATION FOR ITS CULTIVATION ON A LARGE SCALE.

In submitting the following report, Consul Drew Linard, of Ceiba, says that the London boom has given much impetus to the cultivation of rubber in that part of Honduras:

A private company, recently organized here, has obtained title to 3,000 acres of virgin land peculiarly adapted to the cultivation of rubber, and is now planting on a large scale. It is the intention of the company to prepare an additional area sufficient to cultivate several hundred thousand trees, transplanting from extensive nurseries as the land is prepared. There is no cultivated rubber now produced in this locality, but the demand for the wild "scrap" rubber, which thrives profusely and is gathered and sold by the Indians, has resulted in the local price advancing from 38 cents to $1.33 gold per pound.

The fruit planters, realizing that the commercial demand for rubber far exceeds the world's supply, are evincing a strong tendency toward its cultivation as a permanent local development that may eventually result in this section of Honduras producing that article, to the gradual exclusion of the banana.

ARGENTINA.

LIMITED SOURCES OF SUPPLY—RESIN FROM GUAYULE.

An American capitalist addressed Minister Charles H. Sherrill at Buenos Aires regarding rubber-bearing guayule plants in Argentina, and elicits the following reply:

Dr. Carlos Spegazzini, the government botanist, says that there is not found in Argentina the guayule of Mexico (Pyrethrum argenteum) now used for some forms of rubber production. There is, however, an abundant growth of Guayule arbustivo, known here as yarillas, which is rich in resin; the rubber therefrom being inferior it is chiefly used for varnishes. These guayules are almost the only form of vegetation in the arid portions of the Provinces of Mendoza, San Juan, La Rioja, Catamarca, Salta, Rio Negro, and Chubut. German commercial agents have been investigating their distribution and abundance, but the Department of Agriculture has not yet received information that commercial exploitation has commenced.

No caoutchouc was exported from Argentina in the last fiscal year, but on the eastern slope of the Cordilleras there is the Colliguaia integerrima, a small "arbusta" of the Euphorbiaceæ family, which contains rubber of a good quality.

After personally consulting the two leading Argentine authorities on the growth of rubber-bearing plants, whose publications on the subject are transmitted [on file in the Bureau of Manufactures], I find that such plants are as yet of no commercial importance, although the Province of Oran affords excellent conditions for their cultivation.

ENGLAND.

ARTIFICIAL RUBBER PRODUCTION BY A GERMAN PROFESSOR.

Special Agent Henry Studniczka writes from Birmingham, England, concerning the production of artificial rubber and its effect on

the rubber industry and trade, should all that is claimed for it prove true:

There is quite a stir among the directors of leading rubber importing and manufacturing firms here regarding the reported invention of artificial rubber by a German professor at Kiel, and they seem to be very optimistic, as the inventor enjoys an unquestioned reputation as an authority on all matters pertaining to rubber. The invention is based on the boiling together, under certain conditions, of isoprem with acetic acid, in a closed tube, the result being the creation of a gray composite possessing all the properties of pure rubber and capable of being vulcanized in the same manner as gutta-percha. At present this artificial rubber has been produced only in small quantities, but it is the inventor's opinion that when his method has been fully developed it will permit of the placing on the market of an article at one-third the cost of real rubber.

Practical experiments in this branch of chemistry have advanced so rapidly that there can be no doubt that within a few years an artificial substance will be produced which will bring down the inflated price of rubber.

The great shortage of the world's rubber supply and the steadily growing consumption of caoutchouc, especially in the making of air ships, accounts to a great extent for the boom in rubber, and should this inventor, who has patented his method, be able to create a commercial substance the effect will be sensational.

The other experts of Germany are jubilant over this invention. They are pointing out the fact that the realization of the plans of the Kiel professor would signify a greater demand for rubber articles, and therefore a greater industrial activity in this commodity would be the result. At present, owing to the exorbitant prices of rubber, the industry is suffering tremendously.

FRANCE.

A RECORD IMPORTATION AT THE FRENCH SALES CENTER.

Vice-Consul J. D. Wise makes the following report on the rubber trade of the French port of Bordeaux:

The increased demand is attributed to the rapid world-wide development of the automobile industry and to the increased number of electrical enterprises. So great has been the demand for this product, that certain authorities estimate that a further 20 per cent of last year's yield could have been utilized had it been available.

The following import statistics will clearly show the increasing importance of Bordeaux as a rubber market:

Year.	Pounds.	Year.	Pounds.	Year.	Pounds.
1899	886,295	1903	2,448,600	1907	3,336,124
1900	526,970	1904	2,601,946	1908	2,372,304
1901	517,836	1905	2,927,056	1909	4,372,643
1902	1,491,600	1906	3,775,208		

It will thus be seen that the year 1909 shows an increased importation of 2,000,339 pounds over 1908, nearly all coming from the French Sudan, Guinea, and the Ivory Coast. Local dealers attribute the increase to the rise in the price of rubber in Europe, which per-

mitted the paying of higher wages to the natives and consequently incited them to gather a large crop and that the vines had a needed respite during 1908, when the crop was curtailed, causing an overproduction the following year.

Good quality red Conakry is hard to obtain—explained by the rapid advance of railroads toward centers of production, so facilitating travel and shortening time en route that the rubber does not have the time to take on the fine red color that characterized it in the days of caravan trade. During July, August, and September, 1909, the exports from Conakry were heavy, and the quality poor, being whitish, soggy, and well infiltrated with water. The fluctuations in price of para during 1909 were extraordinary—from January to April, para went up from $2.80 to $3 per kilo (2.2 pounds). In May it was at $3.15, in June at $3.50, in July at $4.68, in August at $4.60, and in September at $5.10. It held this price during October, after which it dropped to $4.

The greater part of the Sudan output for 1909 was clean, well conditioned rubber, though in certain instances spongy cargoes "sweating" water were known to arrive. A great deal of fraud, it appears, is still practiced in the Kankan region, where the natives boil their product so that it may become saturated with water. The following shows the prices of rubber in January and March, 1910, per kilo:

	January.	March.		January.	March.
Conakry niggers	$2.55	$3.60	Lahou niggers	$2.20	$3.00
Rio Nunez	2.55	3.60	A. M. Gambia	1.44	2.40
Sudan niggers	2.35	3.30	Bassm lumps	1.25	1.78
Za Gambia	1.64	3.00	Pinky Madagascar	2.20	3.00

PAPUA.

GOOD RESULTS EXPECTED FROM TREE PLANTING.

The following information concerning the outlook for rubber production in Papua, or New Guinea, is furnished by Consul-General James T. Du Bois, of Singapore:

None of the trees planted in Papua are ready for tapping, but it is expected that the Hevea brasiliensis will be sufficiently mature for tapping a year sooner than trees planted at the same time in Ceylon or the Malayan Peninsula. Various kinds of rubber-bearing plants, which in other countries produce latex of small tensile strength and low value, will yield a good marketable rubber in Papua, which lies between the fifth and tenth degrees of latitude south of the equator. As Mindanao, Philippine Islands, lies in the same latitude north of the equator, experts are of the opinion that the soil of that island is equally suitable to the growth of the Para rubber plant, and that the future for prosperous rubber plantations in that region is bright.

The best-known wild rubber tree of Papua, the Fiscus rigo, is now being extensively cultivated on that island, and it is claimed that there are several species of wild rubber vines, which, if properly cultivated, would produce a latex equal to the Para plant.

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EAST INDIES.

SHIPMENTS FROM CEYLON.

Vice-Consul C. A. Davis, of Colombo, reports that last year about 600 tons of rubber were shipped from Ceylon. About 190,000 acres are now planted to rubber there, and when the trees have reached maturity an annual yield of 15,000 tons is anticipated. The planted area in Java, Sumatra, and Borneo is 92.000 acres; Malaya, 250,000 acres; India, 25,000 acres, and German colonies, 38,000, a total with Ceylon of 595,000 acres, which it is expected will ultimately produce as much as that now derived from Brazil.

FOREIGN TIMBER TRADE.

ENGLAND.

MARKET FOR SPRUCE AND FIR STAVES IN LIVERPOOL.

Consul Horace Lee Washington, of Liverpool, answering an inquiry as to the market for spruce or fir staves in that English city, writes that they are imported chiefly from Norway, Sweden, Finland, and Russia. The consul adds:

It is claimed by one firm of importers that the Norwegian and Swedish staves are better finished and more seasoned than the American. An American importer, the representative in Liverpool for a large firm of American stave manufacturers, however, gives as his reason for not importing fir and spruce staves from the United States the cost of transit, which is so great that the prices can not compete with Scandinavian offers. Hundreds of trades use these staves in Liverpool, the cement trade being the principal one. The chief sizes used are 36 by ½ to ⅝ inch and 42 by ½ to ⅝ inch. The staves are cut from 2½ to 5 inches wide, averaging 3 inches in width; a certain percentage of 2-inch width is permitted at a reduced price. The thickness and diameter of heading used will vary with the staves. As a rule it ranges from 15 to 30 inches by ½ inch thick, and 30 and up in ¾-inch thicknesses.

The current price of staves 20 by ⅜ by 2½ inches, 23 by ⅜ by 3 inches, or 26 by ⅜ by 2½ inches, is $35.28 per St. Petersburg standard (about 1,980 feet of inch timber). Prices per St. Petersburg standard for other sizes are as follows: 42 by ⅝ by 3 to 4½ inches, $40.75; 42 by ¾ by 3 to 4½ inches, $37.71; 42 by 1 by 2½ to 3 inches, $34.06; 41 by ½ by 2 inches, $37.71.

WALES.

SWANSEA A GOOD MARKET FOR WOOD USED IN MINING.

Consul C. Ludlow Livingston, of Swansea, writes that the lumber trade at that Welsh port is important and offers opportunities to American shippers if the business is properly followed up. He says:

The imports comprise pit wood for use in coal mines, deals, battens, and boards; hewn and sawn timbers; sleepers and blocks for use on railroads; joinery, lath wood, etc., for building purposes; and doors and window frames. The bulk of the timber comes from France, Norway, Sweden, and Canada, with little from the United States. During the quarter ending March 31, 1910, 34,209 tons of timber were discharged here. The imports during 1909 were as follows: Deals, battens, and boards, 53,008 loads; sawn and hewn timber,

5,572 loads; sleepers and blocks, 13,386 loads; lath wood, 200 tons; pit wood, 132,166 tons; joinery, 2,095 tons. The load is equivalent to approximately 1 ton in weight.

The standard sizes of pit wood, which is generally rough-hewn fir, oak, or larch, are 4 inches by 6½ feet, 5 to 6 inches by 9 feet, and 9 inches by 13 feet. Considerable quantities of Norwegian props, made of Norway fir stripped of bark, are used in the local mines. Pit wood is sold by weight and the props by linear measurement.

Imports during 1909 exceeded all previous records and sales are now active. There are several large and old-established importing firms here and excellent storage facilities. [Names of the principal importers on file in the Bureau of Manufactures.]

TRANSVAAL.

KINDS, QUALITY, AND SIZES REQUIRED AND CURRENT PRICES.

Consul Edwin N. Gunsaulus, of Johannesburg, reports as follows concerning the lumber trade of the Transvaal and the outlook for American supplies:

The largest trade in American timber is in Oregon pitch pine, the demand for which is nearly all from the gold mines, for which 1,386,971 cubic feet, valued at $1,209,371, were required during the year ended June 30, 1909. The following are the kinds of lumber imported for the Transvaal trade: Pitch and Oregon pine, 6 by 6 inches up to 24 by 24 inches, 12 to 50 feet in length, and poplar, clear pine, and shelving. By clear pine is meant either strictly clear or carpenter's clear. The shelving is nearly all of grade 2. Poplar, clear pine, and shelving must be in the rough.

The sizes and prices of timber used here are as follows: Poplar and clear pine, ½, 1, 1½, 2, 3, and up to 6 inches thick; 12, 14, and 16 feet in length; 12, 14, and 16 inches in width, with about one-half 16 feet in length. The current prices paid per superficial foot are as follows: 1 inch, 13 cents; thicker wood, 14½ to 16 cents. Shelving is all 1 inch thick and in the same lengths as poplar and clear pine; 40 per cent of the shelving ought to be 1 by 12 inches by 12 feet, and the price 9 cents per square foot. Hickory sizes should be 2 by 3 by 4 inches, and 12, 14, 16, and 18 feet in length, not shorter than 12 feet.

Practically all doors are imported from the United States and Canada. One-fourth of all the doors used are 2 feet 6 inches by 6 feet 6 inches by 1¾ inches, with four panels, and sell here for $3.04; 10 per cent are 2 feet 8 inches by 6 feet 8 inches by 1½ inch, and sell for $3.28; 10 per cent are 2 feet 6 inches by 6 feet 6 inches, by 1¾ inches, and sell for $4.26. The remaining 55 per cent are 2 feet 10 inches by 6 feet 10 inches by 1¾ inches, and 3 by 7 feet by 1¾ inches (4 panels), and doors for plain and colored glass, same sizes. There are at present no importations of French casements, the market being overstocked.

The freight on rough lumber is about 65 cents per 100 pounds, and the duty 3 per cent ad valorem. When the freight from New York to South Africa is at least $1.50 per ton of 40 cubic feet cheaper to East London, the lumber should be shipped to that port in preference to other ports, as by this means the net cost of delivery to Johannesburg is reduced. The present cost of handling from the ship to the cars is 85 cents per 40 cubic feet.

CANADA.

STATISTICS OF CUT FOR LAST YEAR—RESOURCES OF TIMBER.

Consul Frederick M. Ryder, of Rimouski, writes that the forestry branch of the Canadian Interior Department, by means of correspondence with over 1,400 lumber concerns in various parts of the Dominion, gives an estimate of the quantity and value of lumber cut in Canada, by provinces, during 1909, tabulated as follows:

Province.	Board measure.	Average value per M feet.	Value.
	Feet.		
Ontario	1,294,794,000	$18.84	$24,399,077
Quebec	690,135,000	15.70	10,838,608
British Columbia	647,977,000	14.05	9,107,186
New Brunswick	308,400,000	13.23	4,081,402
Nova Scotia	216,875,000	13.25	2,973,780
Saskatchewan	91,166,000	17.29	1,576,820
Manitoba	56,477,000	15.38	867,969
Alberta	42,382,000	13.99	593,244
Total	3,348,206,000		54,438,086

The number of railroad ties produced in the Dominion during 1909 was 13,978,416, valued at $5,281,685; shingles, 1,499,396,000, $3,101,996; and laths, 671,562,000, $1,487,125. The aggregate value of the total production of lumber of all kinds for 1909 is placed at $67,500,000.

CONSULAR NOTES.

Consul-General George N. West writes from Vaucouver that the forest areas of British Columbia are being rapidly secured by leases of crown lands. He also states that the commissioner of lands, in a speech before the provincial assembly, in discussing the timber and lumber subject, said in part:

> At a conservative estimate there are 15,000 special licenses in force, carrying at least 140,000,000,000 feet of standing timber. The timber acreage of the Province is estimated at 180,000,000 acres. There are in British Columbia 215 sawmills, with a daily capacity of 4,429,000 feet; 59 shingle mills, capacity 3,385,000 feet; and new mills are constantly being erected.
>
> The provincial timber inspector estimates the actual cut during 1909 at 750,000,000 feet. The cut in 1900 from licensed, leased, and crown-granted lands in the Province was 250,647,493 feet, while in 1909 it reached 579,310,960 feet. In 1900 the total [provincial government] revenue from timber in the Province amounted to $145,766; in 1909 it reached $2,343,907.

Consul Maxwell K. Moorhead, in a report from St. John, states that it is officially estimated that there are about 7,500,000 acres of crown lands and 4,500,000 acres of private lands in New Brunswick covered with timber. Deducting the lakes, bogs, etc., there are about 8,000,000 acres of spruce, fir, and pine. The stand of timber is about 1,750 superficial feet per acre, or 14,000,000,000 feet for the Province.

BRAZIL.

PURCHASES LARGELY FROM UNITED STATES—LOCAL INDUSTRY.

Consul-General George E. Anderson, of Rio de Janeiro, reports that the imports of lumber into Brazil during 1909 were valued at $1,991,685, of which $1,563,017 represented pine.

Of these amounts the United States furnished $1,401,234 and $1,354,000, respectively. While there was a slight increase in 1909

over the previous year, it is doubtful if this represents more than a return to the average imports. The principal lumber developments in Brazil are in the pine tracts of the States of Parana and Santa Catharina and the somewhat uncertain shipments of rosewood. About half of the Parana pine production is exported to Argentina and Uruguay. The value of the output in the Parana district increased from $148,190 in 1904 to $690,725 in 1909, but the cost of production is too great to admit of its wide use at present. In spite of the strong demand for rosewood in the United States and Europe exports have fallen off, chiefly because of the cost and difficulty of getting the logs out of the Brazilian forests. Until the trade can be developed along more modern lines there will be little increase in shipments.

VENEZUELA.

PRINCIPAL DEMAND IS FOR SQUARED LOGS.

Consul Isaac A. Manning, of La Guaira, answering an inquiry regarding the market for timber and its manufactures in Venezuela, states that the customs tariff places so heavy a differential on manufactured lumber over squared logs that nearly all lumber bought there comes in pieces squaring over 10 by 10 inches, to be sawn and dressed there. During 1908 the imports of manufactured lumber were valued at $53,167, of which the United States supplied $27,942 and Germany $13,715. During the first half of 1909 the value of the imports was $3,357, the United States supplying $1,277. The imports of squared logs during the first half of 1909 from the United States were valued at $11,104; from France, $18; and from the United Kingdom, $446. Most of the manufactured stuff was in the form of flooring, house fittings, and some box shooks, although the demand for the latter is now supplied by a factory in Maracaibo. The local retail price for small quantities of ordinary lumber in boards measuring 12 feet is $100 per thousand, and it can readily be seen why no great quantities are consumed.

PAPER INDUSTRY.

URUGUAY.

INTERRUPTED AMERICAN SHIPMENTS CAUSE LOSS OF TRADE.

Consul Frederic W. Goding, of Montevideo, furnishes the following information concerning the paper trade of Uruguay:

The publisher of one of the most influential newspapers in Montevideo says that the paper used by him was formerly purchased in the United States, a specified quantity to be shipped monthly. Interruptions in the shipments caused a shortage in his supply, and while the paper, in quality, packing, etc., gave full satisfaction, he was compelled to cancel the contract and purchase elsewhere.

Very few pulp-producing trees grow in the country, and the one factory therein has to use rags and old paper for the manufacture of its product.

The imports of paper and cardboard in 1907 were valued at $750,449. The imports of paper alone in 1906, the latest year for which details are obtainable, were valued at $535,686; printing paper amounting to $344,402, the balance being made up chiefly of cigarette, writing, wrapping, and printing paper, and envelopes.

SIAM.

MANUFACTURING PLANT PROPOSED.

The following report on paper manufacture in Southern Asia is from Consul-General G. Cornell Tarler, of Bangkok:

According to the Siamese customs reports, the total import of paper for the last year was valued at $250,537, which, as compared with the amount imported in previous years, points to a rapidly increasing demand for this product. Reports come from Tonkin and Saigon that a syndicate of paper makers has been established in France which will start a factory in Indo-China to work up the native bamboo fiber into paper. It has already been demonstrated elsewhere that this fiber can be utilized commercially with success. Siam having inexhaustible forests, and an abundant supply of excellent material for paper making, such as cane waste, bamboo fiber, rice straw, and cotton lint, should afford a good field for the establishment of a similar enterprise.

PULP WOOD OF QUEBEC.

EXPORTATION PROHIBITED BY AN ORDER IN COUNCIL.

Consul Paul Lang, of Sherbrooke, transmits a copy of the new pulpwood regulations for the Canadian Province of Quebec; issued by an order in council, from which the following extract is given:

All timber cut on crown lands after May 1, 1910, must be manufactured in Canada; that is to say, converted into pulp or paper, into deals or boards, or into any other articles of commerce or merchandise, as distinguished from such timber in its raw or unmanufactured state. There shall not be considered as manufactured, within the meaning of the present regulations, timber merely cut into lengths or logs piled up, barked, or otherwise worked preliminary to the fabrication of pulp or paper, of deals or boards of any other articles of commerce, nor any timber nor poles; but actual square timber and railway ties are considered manufactured.

The remainder of the regulations is comprised of provisions for the seizure and sale of lumber which the minister or other authorized officer shall have reason to believe is not to be manufactured in Canada. The regulations in full are on file in the Bureau of Manufactures.

FOREIGN RAILWAYS.

EXTENSIONS AND IMPROVEMENTS.

BRAZIL.

HOW AND TO WHOM CONTRACTS FOR CONSTRUCTION ARE GIVEN.

Consul-General George E. Anderson, of Rio de Janeiro, furnishes the following information concerning the extension of the railway system of Brazil:

The railway situation is considered at great length by President Nilo Peçanha in his annual message to the Brazilian Congress. As a general indication of the policy of the Government to continue its railway building enterprises, and as a review of work done, the message is of moment. The President says:

Facts relative to the railway situation of Brazil show the uninterrupted efforts of the Government to extend the railways into the interior of the country. While there was no great extension of trackage during 1909 it may be seen that during 1910 an extension of lines exceeding the greatest expectancies will be opened to traffic. During the past year 366 miles of railway, of which 290 miles belonged to the Federal Government and 76 miles to state governments, were opened to traffic. The total railway mileage of the country was increased from 11,844 miles to 12,183 miles. Within a few months lines to the extent of 1,477 miles will be placed in use, all under the ownership of or concession from the Federal Government, which fact indicates the desire of the Government to develop means of transportation and secure the greatest possible results within its power. The construction now going on follows the policy of the formation of great interior systems, by means of the principal lines, by which districts of important commercial interests are knit together, extending the area with facilities for shipping products, and reducing the cost of transportation, subjecting it to a system of simple and uniform freight rates.

The President notes that Rio de Janeiro and Victoria, the first port to the north along the coast, have just been brought into railway connection, while in the north the capitals of the States of Alagoas, Pernambuco, Parahyba, and Rio Grande do Norte are now connected by rail. The Government recently issued decrees for the construction of another great system to connect the States of Ceara, Piauhy, and Maranhao and, later, Para. The President adds:

With the roads already established; with the completion of the Rio Grande do Sul system, with some complementary lines which must be added to it; with the construction of the Bahia railway; and with the lines of the narrow-gage system feeding the Central of Brazil system there will be completed, for the time being, the system of interior railways planned.

Of the Madeira-Marmore line 53 miles are open and by the end of the year 108 miles, or half the total line, will be completed. The great road across the country to Corumba, in Matto Grosso, has 211 miles in operation and 162 miles more almost completed. The message reviews the work on all the several smaller roads or parts of systems, reporting considerable progress in almost every case.

The Central Brazil Railway, the great government system, serving most of the more populous portions of the central coast country, has

been extended to the river Sao Francisco, at a point 621 miles from Rio de Janeiro. It opens up railway connection with the river traffic on the Sao Francisco River to the south. This river, though commercially separated from the coast by falls, is a great interior highway which in time will have immense economic importance. The railway is to be continued along the Sao Francisco Valley for some distance, and branches are to be constructed connecting the principal towns of northern Minas Geraes with the main system and with the river.

Most of the railways are being constructed by the Federal Government or under concessions therefrom. Various contracts have been made, but, in general, the principle followed for most of them has been the payment for construction by government bonds, issued for the purpose, the contract with the concessionaires providing that the roads when operated shall have all net earnings first applied to the payment of interest on and for the amortization of such bonds, the excess, if any, to go to the concessionaires as profit. Generally the concessionaires take contract for financing the road, for its construction, and for its operation for a fixed period. Most contracts provide for a limit of cost of construction per kilometer, bonds being issued at an agreed rate for the actual cost up to that limit. Various other features are noted in contracts for roads under special conditions.

Contracts for such work are made by the Government with Brazilian concerns or foreign firms domiciled and authorized to do business in Brazil only. There is an immense amount of such work being done and in prospect at the present time, but no American interests can expect to do anything in this line without Brazilian agencies.

URUGUAY.

IMPORTANT EXTENSION TO ARTIGAS—LINE FROM PALOMA.

Consul Frederic W. Goding, of Montevideo, supplies the following railroad news concerning Uruguay:

An important decree provides for the extension of the Northeastern Railway from Melo to Artigas, a town of some importance on the Yaguaron, instead of to Centurion. Both towns are on the Brazilian border, the former being accessible to ocean-going vessels.

For the accommodation of passengers the electric car line on Calle 25 de Agosto is to be extended on to Wharf A, so as to be convenient for passengers landing from or going to both ocean-going and Buenos Aires steamers.

A railway from the port of La Paloma, on the Atlantic, to Treinta y Tres, passing the towns of Rocha and Lascano, and crossing the Cebollati River at its highest navigable point, is to be built, about 127 miles in length. The State guarantees 3½ per cent interest on a cost of about $41,500 per mile, which is to be paid in full when the net profits do not exceed one-half per cent of the capital. Work is to be commenced within six months after the approval of the plans, which are to be submitted eight months after being presented. The railway is to be ready for traffic 45 months after starting. Moles will be constructed at the port of La Paloma and at the crossing of the Cebollati River, although there will be no monopoly. The concession is for 90

years, at the termination of which period the works pass to the State. Colonies will be established, for which a rebate of 20 per cent of the tariff will be allowed on agricultural products, machinery, utensils, and building material. This railway will open up for settlement a vast region now thinly populated and of great agricultural and mineral possibilities.

CONTRACTS AND NEW ENTERPRISES.

Mr. Edwin V. Morgan, American minister at Montevideo, sends a later report on the proposed railway from La Paloma, giving the name of the concessionaire, which may be obtained from the Bureau of Manufactures. He also says that the new line will connect with the branch of the Central Uruguay eastern extension to Treinta y Tres, now approaching completion. Mr. Morgan adds:

"The Central Uruguay Railway desires to contract with the Government to construct a branch line to La Paloma from the town of Minas. The Public Works Commission of the Senate has prepared a bill authorizing this agreement.

"The commission of the House of Representatives has reported favorably on a bill to permit a concessionaire [name on file at Bureau of Manufactures] to construct a rapid express electric railway between Montevideo and Colonia, on the Plate River opposite Buenos Aires, and a canal (the Zabala) for navigation, irrigation, motive power, and water supply, which shall start from the river Santa Lucia and shall terminate in the bay of Montevideo. The State guarantees for fifteen years 5 per cent of the cost of the canal, which is fixed at 11,000,000 pesos (peso, gold=$1.034)."

ARGENTINA.

THROUGH ROUTE TO CHILE—TARIFF UNION.

In referring to the recent passage of trains through the Trans-Andean tunnel, and the passage through it of the Chilean President to attend the Argentine centennial celebrations on May 20, Consul-General R. M. Bartleman, of Buenos Aires, calls attention to some of the economical changes it will cause:

From about July 1, when all will be in working order, the journey from Buenos Aires to Valparaiso can be made over this railway in 35 hours. Passengers will have to change cars at Mendoza, Argentina, as the Great Western Railway from Buenos Aires to that city is broad gage, while the Trans-Andean Railway is very narrow gage. Another change must be made at Los Andes from the Trans-Andean to the Chilean State Railway.

Besides the expected increase of passenger traffic, which will undoubtedly be large, the cattle traffic will also be greatly augmented. Special trucks have been built to promote this growing trade. Light general merchandise will also be carried in ever-growing quantities. The prospective treaty of commerce between Argentina and Chile, which it is expected will establish free trade between the two countries, except as regards Chilean ordinary wine and alcohols, will undoubtedly assist the road; the Province of Mendoza will be especially benefited, for as soon as cheap transportation can be obtained many Chilean farmers, so it is said, will cross the border into that fertile region, where much land remans to be developed.

NEW TRAIN SERVICE.

COST OF TRAVEL BETWEEN ATLANTIC AND PACIFIC.

From Valparaiso Vice-Consul C. F. Baker writes that the fare by the Trans-Andean Railway to Buenos Aires is £14 ($68.13) first class and £9 ($43.80) second class; 5s. ($1.22) is charged for each 5 kilos (11 pounds) of baggage transported, the passenger being allowed 20 kilos of hand baggage. This is the same as the old rate for baggage, but the vice-consul understands that a new and lower rate will be fixed as soon as the different interests of the road can come upon some agreement. The trip can now be made in 36 hours, including a lay over in Los Andes of some 12 hours.

SALVADOR.

CONSTRUCTION STARTED OF LINE TO GUATEMALA.

The building of the Salvador extension of the Guatemala Railway is reported by American Minister William Heimke, of San Salvador, to have begun on April 15. It will extend from La Union 38 miles to San Miguel and is to be finished by January 1, 1911, although the Salvadorean concession to Rene Keilhauer, representing Minor C. Keith, does not require completion until October 15, 1912.

After construction of the La Union to San Miguel branch the concessionaire is obliged to build at least 10 kilometers (6.2 miles) of road per annum until the completion of the line to the Guatemalan frontier, about 250 miles from San Miguel, the Salvadorean Government having agreed to pay $7,000 gold for every kilometer of road constructed. When this entire line is completed from a point on the Guatemalan frontier to San Miguel, it will be the link in Salvador of the Pan-American Railway.

RAILWAY TIES FOR CHINA.

AMERICANS FAIL TO SECURE CONTRACT—PRESERVATIVE QUESTION.

Vice-Consul Albert W. Pontius reports from Nanking that the recent Chinese award for railway ties went to a British firm, who supplied timber from Australia known as "jarrah." The vice-consul comments:

The call for tenders was advertised in the Shanghai papers in November and December last and called for 150,000 wooden sleepers, 1,600 crossing timbers, and 5,000 bridge ties. Two American firms submitted bids for Oregon pine, but, although their quotations were lower than jarrah wood, they failed to secure the award. From more or less authentic sources I have ascertained that the reason therefor was the inferior quality of wood supplied under a previous indent, the creosoting process proving quite unsatisfactory. The Oregon timbers supplied at the time were evidently merely coated with creosote, the preservative not being injected under pressure as it should have been. It is regrettable that through the shortsightedness of a previous bidder, Oregon pine should receive such a decided setback. The final awarding of the recent tender was delayed for some time, the use of Oregon pine being under serious discussion, but the previous unsatisfactory supply of sleepers was undoubtedly a predominant factor in deciding on the use of jarrah wood.

RAILWAY SIGNALING DEVICE.

AUTOMATIC APPARATUS ADOPTED BY ENGLISH PRIVATE LINE.

Consul-General John L. Griffiths, of London, submits the following description of a railway signaling device designed to give audible and visible indications of the position of outdoor signals to the locomotive engineer, which apparatus has been adopted by a private line in a large English iron works:

A locking bar, worked by the signal wire, is placed beside the rails at a suitable distance in advance of the semaphore, and it assumes its lower position when the signal is off and its higher one when the signal is at danger. From the engine there depends a rod, the end of which bears a short pivoted arm carrying a small roller. This arm can be moved through about 90 degrees by a reversing arrangement in the cab, which, if desired, can be connected with the reversing gear, and thus it is made to slope forward or backward according to the direction in which the engine is running, its proper position being such that the roller is drawn up, not pushed against, the slope of the locking bar. However, the apparatus works even if the arm is in the wrong position, though the blow of the impact is rather heavier. As the arm meets the bar it is forced upward and thus draws down the rod that communicates with the indicating apparatus in the cab; the direction of motion is, however, changed on the way, so that it becomes upward.

In the indicator there is a rod, moving vertically, which carries two labels—one "Clear" and the other "Danger"—and when the locking bar is in the lower position the movement is sufficient only to bring the former into sight at the window; at the same time a green light is shown and a bell begins to sound. If the bar is in the higher position the rod is moved still further upward and the word "Danger" appears; a red light is also shown and the whistle is started. In both cases the indications continue until the apparatus is brought to zero by the driver. In addition, a single hole is punched in a continuous paper strip when the signal is off and two holes when it is on, thus providing a continuous record.

It is stated that by providing additional positions for the locking bar the apparatus can be arranged to inform a driver, when approaching a junction, which road is set for him.

RAILROAD TICKET-PRINTING MACHINE.

AN ENGLISH RAILROAD IS TRYING A NOVEL LABOR-SAVING DEVICE.

Consul Frank W. Mahin, of Nottingham, advises that the Great Central Railway Company expects to test, at its Leicester station, a ticket-printing machine intended to save clerical work and dispense with the cumbrous system with its thousands of different tickets.

An English newspaper describes the machine as small and unpretentious, 3½ feet long by 2 feet broad and 4 feet high. An indicator which carries the name of every station upon the system arranged in alphabetical order, is touched, the clerk slips a blank into a slot in the printing carriage, a small handle is turned, and a completely-printed ticket drops out ready for use. At the same time a record of

the sale and all information required for bookkeeping is duplicated on a continuous strip of paper. When the clerk goes off duty he simply totals the continuous strip and counts the cash. The machine can print 3,000 different tickets, and it is claimed that a clerk can issue 500 an hour. Great stress is laid on the value of the machine in dispensing with classifying and auditing tickets and sales. In a busy station where a dozen ticket clerks are employed, it is said that most of their time is spent in bookkeeping and elaborate checking, necessary under the present system.

NEW CAR DISINFECTING APPARATUS.

GERMAN DEVICE FOR EFFECTIVELY CLEANING RAILWAY COACHES.

Consular Agent George A. Makinson, of Sorau, describes a new disinfecting apparatus for passenger cars recently installed at the Potsdam yards of the Prussian State Railways:

The former method of cleaning cars infected with vermin cost $85 per car, while by the new method whole railway trains can be cleaned in a few hours at a cost of $8.50 per carriage. The new apparatus consists of a steel tube laid parallel on the ground and having a diameter of 16 feet 4 inches and a length of 75 feet 4 inches. When a carriage is to be disinfected all doors and windows are opened and the carriage pushed into the apparatus. The tube is then closed and made air-tight and the air heated by means of steam pipes to 122° F. Then, as the temperature in the tube is constantly increased, the air is pumped out until the atmospheric pressure falls to 13½ pounds per square inch. This draws all life from the vermin, also from the spawn under the cushions or behind the woodwork, and their death made absolutely certain. When it is desired to cleanse the carriage not only of vermin, but also of infectious germs, an evaporator filled with formalin is placed in the center of the tube. [A picture of the new apparatus may be seen at the Bureau of Manufactures].

LEATHER AND SKINS.

FOREIGN SHOE TRADE.

MEXICO.

SHOES SENT BY MAIL CHEAPER THAN FREIGHT.

Consul Marion Letcher, of Acapulco, furnishes a statement prepared by a merchant in that city, showing that the delivery of shoes from points in the United States by mail is cheaper than by freight. The statement was compiled from an average cost of 12 pairs of men's shoes by mail and 18 pairs by freight, of the same class of goods received from the same factory in the United States. In each case the cost, in Mexican currency, of federal duties was $1.75 per pair, exchange 3.3 cents, and municipal surtax 2.63 cents. On those sent by mail the postage was 60 cents per pair, and the extra postage paid at Acapulco 9 cents, making the total cost of each pair $2.4993 Mexican currency, or $1.2446 American. On those sent by freight the following charges were made in addition to duties, exchange, and surtax: Consular invoice, 4 cents; marine insurance, 6 cents; commission to New York broker, 15 cents; drayage in New York, 3.8 cents; drayage in St. Louis, 0.5 cent; freight, St. Louis to New York, 7.6 cents; freight, New York to Acapulco, 36.6 cents; lighterage and drayage at Acapulco, 1 cent; customs clearance, 2 cents, making a total of $2.5743 Mexican currency, or $1.282 American. The saving by mail shipment was 3.74 cents per pair.

Since the expenses by mail are uniform for all points in the United States, the above would indicate that it would be better for all dealers or factories in the interior desiring to enter this market to ship to their customers by mail when practicable. The time required by mail is less than one-half that required for a freight shipment; a mail order reaches the merchant here in twenty-five days after his letter is forwarded, while a freight shipment takes at least two months.

MAIL-ORDER TRADE.

The foregoing refers to the wholesale trade, but will be found to contain suggestions of value to the retail mail-order houses. This place is rather at a disadvantage in the matter of competitive freight rates, but when it is remembered that a large proportion of the population of Mexico can be readily reached by mail, while only a small proportion has the advantage of railroad accessibility, the possibilities of the mail-order business will be realized. The latter is, however, the main consuming portion of the population so far as external trade is concerned.

The fact that the cost of mail delivery named above is constant for all shoes of the same size, high-grade shoes bear a smaller proportionate expense than shoes of less cost, and for this reason the sale of the highest quality of shoes ought to be pushed. American shoes are greatly esteemed, and in durability or appearance appear

to have no rivals. Shoes of English and of French make are, however, carried by old houses of this place, but more as a matter of habit than anything else, since the popular demand is for American shoes. The locally made shoe is, as a rule, made of imperfectly tanned leather and, in addition to having a disagreeable odor, does not hold its shape. For these reasons it does not compete with the higher grades of American shoes. Every town has its shoe shops where footwear is made to order, but the shoes turned out in these are generally of ordinary quality in point of material and of very poor fit.

CHILE.

LOWERING OF DUTY CREATES NEW MARKET PROSPECTS.

Vice-Consul Charles F. Baker, of Valparaiso, reports that the American shoe is rapidly gaining ground in the Chilean market.

There are two establishments in Chile fitted out with American shoe machinery and managed by experienced American shoe men; there are any number of smaller institutions that import American lasts and use American uppers; also three large French shoe factories that use more or less American material, but the products of none of these factories will stand comparison with the American shoe in the eyes of the Chilean people. The native-made article can be recognized at a glance, as it lacks the finish and will not hold its shape even with the best of care.

The high price caused by a very high tariff has kept foreign shoes out of the Chilean market. A duty of 60 per cent plus another 40 per cent for freight, commission, insurance, etc., added to the originay wholesale cost of $3 to $4.50 places the retail price out of the reach of the customer.

[The duty of 60 per cent was reduced to 55 per cent on January 1, 1909; to 50 per cent on July 1, 1909; to 45 per cent on January 1, 1910; on July 1, 1910, it will be 40 per cent, and from January 1, 1911, it will be 35 per cent.—B. of M.]

By the law of December 16, 1907, the duty on shoes is gradually being reduced to a minimum of 35 per cent, which will be reached on January 1 of next year, and in view of this fact many orders are being placed for delivery at that time.

It is hardly likely that the United States will ever have an extensive market in Chile for highest grade shoes. While there are a few who can and will pay any price for an article that suits them, the great majority will find the price too high. The shoe retailing for $3 to $4 and $5 in the United States will meet the demand of the Chilean market and can be sold at a handsome profit.

TURKEY.

EUROPEAN SHOE TRADE WITH THE EMPIRE.

The following statistics covering the shoe trade of European countries with Turkey is translated by Consul Talbot J. Albert, of Brunswick, from an article in the Deutsche Export Revue, from its special correspondent in Constantinople:

Modern shoe factories are unknown in Constantinople, although boot legs are manufactured and bought and worked up by the shoemakers. This hand

industry could be slowly but surely supplanted by a good organized export industry, having regard for the taste of the country, as the foregoing figures only represent a small fraction of the consumption.

Austrian products have the reputation of being elegant, and, at the same time, not too dear. Vienna sells chiefly ladies' shoes, frequently at $5.70 a pair. Men's boots come chiefly from England, and are cheaper than those from Austria. Germany's small trade consists chiefly in the so-called American forms. France sends mostly horse-leather articles for boys and girls, which come from Paris. The best French manufactured footwear is too dear for Constantinople.

For the export of foot wear to Turkey a special point must be made in elegance, and manufacturers interested must study the taste and the prevailing modes.

An annoyance under which the exporter has indirectly to suffer is the credit system in Constantinople. The retail shoe trade has striven to bring about reforms in this respect, but no noteworthy results have been attained.

THE LEVANT.

USE OF TCHIRICH AND THE TURKISH SOURCES OF SUPPLY.

The following information concerning a paste largely used by shoemakers and others in the Levantine countries is furnished by Consul Milo A. Jewett, of Trebizond, who recommends it to the consideration of American shoe men and cotton-cloth finishers:

In this country the shoemakers employ a paste called tchirich for fastening the kid and cloth linings in shoes, and consider it superior to any other. The same paste is used to a lesser extent by the bookbinders and pasteboard-box makers. It is used in other Levantine countries also, but, as far as can be learned, it is not used or perhaps known in the United States. It is exported from this district in considerable quantities to other parts of Turkey, to Greece, and to Roumania. Some experiments have recently been undertaken in Italy to determine its value as a dressing for cotton cloth. It is, perhaps, an article that might be useful in the United States in the manufacture of shoes or as a substitute for other pastes in finishing cotton cloth.

Tchirich means the asphodel, a herbaceous plant of the genus asphodelus, native of various Levantine countries. In the interior of Asia Minor, where it grows wild in abundance, the leaves are used by the country people for food. The root is highly mucilaginous. When dry it has a thin, brown skin, the inside being white, hard, and glistening. It has little taste or odor. The root is gathered in the fall. When thoroughly dry it is ground in a sort of gristmill to a fine powder. A small quantity of soft, white limestone is added to the root in the process of grinding, in order to facilitate the process of pulverization and, perhaps, to add weight to the product.

The powdered tchirich forms a strong paste when mixed with water. No boiling is required. The quality and strength of the paste is tested by patting a small mass of the paste with the finger. If numerous long threads of paste adhere to the finger the quality is good. The paste is apt to mold readily. It then has a disagreeable, sour odor, but does not lose its adhesive power.

Tchirich comes to Trebizond, in powdered form, chiefly from Erzeroum and Erzinghan, the latter being inferior to that of Erzeroum. About 300.000 pounds of powdered tchirich are exported from Trebizond annually. The usual price of the Erzeroum tchirich

is about 3 to 4 cents a pound and for the Erzinghan about 2 or 2½ cents a pound. This year, on account of the short crop, the prices are 30 to 50 per cent higher than usual. [The consul, in forwarding the addresses of dealers in tchirich in Trebizond, which are on file in the Bureau of Manufactures, offers to furnish any other information which may be desired concerning this product.]

FUR PRODUCING INDUSTRY.

CANADIANS FURNISH LARGE QUANTITIES FOR WORLD MARKETS.

Vice-Consul-General Ross J. Hazeltine, of Halifax, has prepared the following review of the fur markets, especially relating to the contributions of Canada:

Fur is to-day probably the most fashionable and popular article of personal attire and adornment, and is more generally worn than at any time in history. Its use has come to be widespread and is not confined to the colder climates of the North. The enormous consumption of all kinds and qualities of furs has created a demand which far exceeds the available supply. Prices are consequently high.

Canada has for many years contributed a large share of the furs used on this continent and elsewhere. The Hudson Bay country is the richest region in this resource. Last year Canada was credited with raw furs to the value of $2,719,822, while this year the export of furs is estimated at $3,500,000. The supply in Canada is not on the decrease and is not being depleted as in other countries. However, prices have steadily advanced during the past several years.

Rabbit furs have increased in price about 100 per cent, while some skins have advanced 500 per cent within the last few years.

A few examples given by a Winnipeg authority on the subject show how the prices have soared during the past few years. The figures quoted are the average for raw skins as sold to collectors by trappers:

Character.	1904.	1910.	Character.	1904.	1910.
Muskrat	$0.11	$0.70	Lynx	$3.00	$30.00
Skunk	.70	3.00	Wolf	1.50	4.00
Red fox	2.00	6.00	Weasel	.10	.60
Mink	1.75	8.00	Badger	.50	3.00

A fleet of sealing vessels leaves Halifax and St. John, New Brunswick, each winter for the hunting grounds in the South Seas. The catch is sold in London at highly profitable prices and sealing has become a remunerative occupation for vessels during the winter months when Bank fishing is at a standstill.

This year the steamer Florizel of the Red Cross Line, plying between Halifax and New York, went to northern waters upon a sealing expedition and has just returned to St. John's, Newfoundland, with a catch of 47,000 seals—the largest catch ever landed in that port. The value of the catch is estimated at $120,000.

The following are the 15 steamers reported and their catches this season: Florizel, 47,000; Viking, 24,000; Southern Pass, 20,000; Harlaw, 13,400; Beatrice, 28,000; Bonaventure, 18,000; Bellaventure, 40,000; Eagle, 25,000; Newfoundland, 22,000; Aurora, 9,000; Diana,

3,000; Erik, 2,000; Bloodhound, 2,000; Ranger, 3,000; Adventure, 3,000; total, 259,400. This catch is valued at $650,000.

The seamen who ship on sealing cruises usually receive a proportionate share of the catch. During the course of a profitable season an ordinary seaman will receive $1,000 or more as his share.

At the close of the northern fur season the skins from countries south of the Equator begin to come to market. The most numerous of all skins collected in southern zones is the Australian opossum, of which several millions are collected yearly. This is a fashionable fur, which last year sold at double the price of the preceding year. All other furs from the Southern Hemisphere show sharp advances, particularly nutria, which comes from South America and which has become so expensive as to restrict its use.

Also during the summer, skins come to market from countries north of the Equator, Russia, Siberia, Mongolia, and those Asiatic countries in which are raised domestic animals for this trade. These countries produce Persian lamb, broadtails, astrakhan, sheep and lambskins, calfskins, and from China, dogskins, goatskins, weasels, and other. Most of these skins, except those from China, are brought to the great fair of Nizhni Novgorod, in Russia, where in August they are sold to Western collectors, reaching this continent from October to January. Almost without exception all these skins showed large advances and were on the average 25 per cent higher than last year.

HARNESS IN AFRICA.

OPPORTUNITY FOR AMERICAN GOODS IF CORRECTLY MADE.

In response to letters from United States manufacturers of harness and saddlery, concerning a market for these goods in South Africa, Consul Edwin N. Gunsaulus, of Johannesburg, submits the following report:

The importation and sale of harness in this country is very considerable, and American manufacturers up to this time have had a very small percentage of this trade, the bulk of which now goes to England. Even taking into consideration the increasing use of motor vehicles there is a huge market still open, and while so much transport necessary in a new country is carried on there is every probability of a constant increase in the harness trade.

KINDS AND CLASSES OF HARNESS USED.

The largest amount of harness in use in that suitable for mules, an dis generally supplied in "wheeler and leader;" that is, one style for the two mules next to the wagon and another for the four or more leaders, as the case may be, as most transport is done with four to eight mules. This harness, naturally, is of medium or small size and is of two kinds, that of leather throughout with pole strap, and a heavier grade with chain trace ends and swingletree, which is nearly always stocked in brown or undressed leather, and with reins to match the lengths. This harness may be somewhat rough in appearance, but must be well sewn, correct as to size and essentially of well-tanned leather.

For buggies a lighter, smarter, and better finished article is on sale in single and double, with brass mounts or silver plated. In

this class of harness, whether brown or black, it is necessary that the sewing have particular attention, and nothing answers the purpose better than good waxed hemp for such a climate as this, where heat and dust soon rob it of its strength. The kind chiefly used is breast-collar shape, both in mule and buggy harness, with felt pad under the saddle and around the breast pull. Neck collars are not readily sold here, being too hot, and for the further reason that difficulty is experienced in fitting collars to cobs and mules not all of uniform size.

The prices of harness vary according to quality, some kinds being landed, including a duty of 25 per cent, at anywhere from £3 to £8 ($15 to $40), but for good class of harness there is little difficulty in paying manufacturers a good price.

SIZES AND QUALITY.

In this country, where the horses in use are of every conceivable breed, the fit of harness can not be gaged to a nicety, but, generally, speaking, it should be roomy in girth and full in neck collar, while the traces, which are used in connection with spiders chiefly, should have greater length to allow the horse to be in his right place. I am told by dealers here that there is a defect in this respect in American harness, which must be remedied if sales in South Africa are to be increased.

According to local dealers the quality of the leather entering into harness of American manufacture is not always as good as that employed by the English manufacturer. Two points of inferiority, as stated to me, are that the leather is not sufficiently tanned and in the traces and wearing parts it is much too light. A local dealer stated that one of the first questions asked him by customers is, "are you selling me harness of American or English manufacture?" Owing to the quality of the leather the Englih article has preference. I am told that in the manufacture of English harness oak-bark tanned leather is chiefly used, the leather first of all having had sufficient time in the pits to make it soft and durable.

If American manufacturers expect to increase their business here in this line of goods it will be necessary for them to carefully guard the points named, especially in the matter of thoroughness and uniformity of tanning, according to the English method and also in attention to the quality of leather used. With these improvements there is no doubt that the harness business would be greatly increased in favor of the United States. American manufacturers in communicating with the importers for the trade here, would do well to make careful inquiry in regard to any defects found in the goods made by them and also endeavor to ascertain just what is best suited for the South African maket. At present it is safe to say that quite nine-tenths of the haness sold in South Africa is of English manufacture.

A list of the principal impoters and selles of haness in this consular distict is fowarded [and may be obtained fom the Bureau of Manufactures].

INDUSTRY AND LABOR.

INDUSTRIAL ACTIVITY.

ARABIA.

INTEREST IN AMERICAN COTTON AND AGRICULTURAL IMPLEMENTS.

On invitation of the Sultan, Consul Charles K. Moser, of Aden, recently visited Lahej, the capital of Abdali, a southern Arabian country. The portion of his report directly concerning the United States is as follows:

Lahej, the capital of Abdali, 28 miles due north from Aden, 18 miles of the journey being through the desert, which was accomplished by camel train, accompanied by the Sultan, is a city of 12,000 inhabitants, clustered about the palace and well hidden in palm trees. It lies in the direct and only route from Aden to Tais, Sanaa, and the interior, and every caravan that passes must pay toll to the Sultan. The Abdali territory is about 150 miles in length by 100 miles in width, and has a population of 60,000, of which one-half are centered about Lahej.

The Sultan is anxious to grow cotton, and has recently endeavored to arrange with the British residents at Aden for the construction of an irrigating plant to supply water to at least 10,000 acres of cotton land. He is greatly interested in American cotton, and anxious to experiment in its production on his land. He wants all literature on the subject of cotton; he also wants catalogues containing cuts and prices of American agricultural implements of all kinds. The Sultan's young nephew has a map of the United States hanging on his wall, which he seems to have studied thoroughly. He asked me an infinite number of questions about American machinery and American inventions. A large American gramaphone and a modern automatic pistol have well advertised our mechanical implements to him.

Through an interpreter, the Sultan spoke earnestly of the future of his tribe and his eagerness to advance its interests. He said in part:

> The world is changing and we must change, too, or we shall not survive. My people are poor; they have no roads; they do not know things in the world. But when they do know they will change. If some one would come and teach them they will be glad. It is no use for them to buy seeds, for they know not how to grow the crops; why should they buy your implements of agriculture when they know not how to use them? But if some man should come to sell us seeds and farming tools, and stop a while to teach us how to use them, we would make him our brother. It is my ambition to have one man come to teach English and the new sciences to my children, and another man come to teach my people how to make their crops grow. Then will our land be like a garden. Perhaps this man will not come in my time, but my sons will see him.

Although it may be doubted whether the Abdali are sufficiently advanced to make use of the larger and most modern types of American

farm machinery, a limited number of hoes, rakes, planting machines, cultivators, harrows, plows, etc., of the simpler patterns, might be gradually introduced, but there seems to be here a future for agricultural development, and American manufacturers should be prepared to take advantage thereof, for the fame of American machinery is well recognized among these southern tribes.

There are no English schools in Lahej, although there are plenty of Arabic schools, and the Sultan is considering about securing a graduate from the American College at Beirut to become superintendent of instruction for all his people.

A SOUTH ARABIAN FOOD PLANT.

Jowari, a tall slender plant resembling corn and headed with a grain something like millet, is the Abdali's chief crop. He feeds the stalk to his camels and eats the grain himself. Three crops a year are produced. Jowari requires little cultivation except weeding, which the Abdali does by hand, and when ripe he cuts it off close to the ground with his hunting knife. New shoots spring up from the roots to become the next crop. For a camel load of about 125 pounds he receives at Aden an average of 2 rupees or $0.6488. A fair yearly yield is 20 camel loads per acre.

PAPUA.

A LONDON COMPANY ESTABLISHED TO DEVELOP RESOURCES.

The following information concerning Papua and its agricultural and mineral possibilities is furnished by Vice-Consul-General Henry D. Baker, of Sydney, Australia:

As a result of favorable reports by members of an exploring expedition through Papua, composed of an Australian premier and several agricultural experts, the British New Guinea Development Company has been formed in London, with a capital of $7,290,000, part of the stock being subscribed by Australian capitalists, for the cultivation therein of tropical produce on a large scale, for general trade and development business, the construction of light railways and tramways, roads, harbors, wharves, etc., and the utilization of Rona Falls, on the Laloki River, for agricultural business.

The members of the expedition reported that, by reason of its physical features, variety of rich soils, and copious rainfall, Papua, which is under the jurisdiction of the Australian Commonwealth, is capable of producing nearly every valuable agricultural product grown in the Tropics, and that among its indigenous plants are sago, sugar cane, rubber, cocoanuts, nutmegs, tobacco, ginger, arica palms, fibers, bananas, etc. The country is said to be heavily timbered, and includes many hard and soft woods. Waterways are numerous, and there is ample power for driving sawmill machinery. The country is suitable for cotton, which the company proposes to cultivate. The cotton already grown is said to resemble the sea-island variety, of fair color, long, and strong.

Rubber is indigenous to Papua, the native supply being derived from vines which entwine the large forest trees. Considerable areas have, however, been planted with the Para trees, and it is claimed that these have a more rapid growth in Papua than in any other country.

It is believed that the gold, silver, copper, and other metal wealth of Papua is considerable, but this company will restrict its operations to agricultural development, leaving the mineral exploitation to another company.

The climate of Papua, it is claimed, is, with reasonable precautions, not unhealthy for white people. While the low-lying districts are malarious, the planters who have settled homes are not much troubled with sickness. In the case of callings, like mining, where there would be more exposure to weather and other unwholesome conditions, the prospects for successful work are not so promising as for agriculture.

AFRICA.

DEVELOPMENT IN SOUTHERN SOMALILAND—FOREIGN TRADE.

Consul Charles K. Moser, of Aden, furnishes the following information concerning Southern Somaliland, on the African east coast:

Of the two parts of Italian Somaliland, Benadir, or Southern Somaliland, extends along the coast from Obbia to Giumbo, and into the interior 200 or 300 miles. Its chief seaports are Merkha, Brawa, Giumbo, and Itala. Its chief inland towns are Lugh, Bardera, Afgoi, and Balad, each having an estimated population of 5,000, but no estimate can be made of the territorial population.

The chief exports of the coast ports are hides and skins, native grains, dura, cattle and sheep, ivory, feathers, incense, etc. Extensive experiments with promising results are being carried out in the growing of cotton and rubber. To each of ten Italian agricultural societies the Government has granted concessions of 12,000 acres along the Juba River for cotton growing. Irrigation is necessary.

The imports are composed of American cotton cloth, kerosene, foodstuffs, dates, and rice, from Aden and Zanzibar chiefly.

During nine months of each year two steamship lines call regularly at the ports of Benadir, and a new line will commence a regular schedule from Aden to Zanzibar in June, calling at African intermediate ports. The three months of the year during which these lines do not call at the ports are June, July, and August, when the southwest monsoon prevails.

RUSSIA.

ELECTRICAL DEVELOPMENT IN MANY SECTIONS—PUBLIC WORKS.

Consul-General John H. Snodgrass, of Moscow, supplies the following news concerning the great energy now manifest in developing Russian cities:

Elektritchestvo is authority for the statement that new electrical stations are contemplated for Novgorod, Kupyank, in the Government of Kharkov, Roono, in the Government of Volhynia, and Karassubarar in the Government of Tabriz, Alexandroosk-Gruschersk, and Kharbin. The town of Tambov had a proposition submitted by a German firm for electric lighting which would include a hydraulic power station. Poltava is advertising for a supplementary dynamo and engine. The following electric undertakings are either decided upon or are projected; Hennitchesk, electric light-

ing; Kiev, extension of electric lighting; Tchernigoff, telephone system; Orgieff, electric lighting; Rostov-on-the-Don, power station; Simferopol, electric tramways; Abashukino (in the Caucasus), hydro-electric station; Vladivostok, central power station; Novo-Nikolaievsk, electric lighting; Minsk, electric traction for tramways; Tiflis, electric railway along Mount St. David, and several other works in the district; Piatigorsk, electric power station; Romaninsk (Caucasian oil fields), power station; Poltava, electric tramways.

Not long ago the city of Baku disposed of the larger part of its public utility bonds through London banks. As a result of the English subscriptions a London firm has secured the contract for laying the water-pipe line. Other English contractors are expecting to secure similar contracts in the various public improvements that will be made in Baku.

The Journal de St. Petersburg states that the Central Telephone Administration has obtained permission from the municipal authorities to use $1,420,000 in extending the telephone system and enlarging the central exchange so as eventually to serve 34,000 subscribers. The administration desires to arrange for an eventual 45,000 subscribers, and has asked that the amount be increased to $2,425,000.

If Moscow can secure a loan of $12,360,000, the town council will expend the following sums on public improvements: $5,250,000 for extending the street car lines and taking over several private lines not yet electrified, $1,300,000 for drainage and canalization works, $2,000,000 for reconstruction of municipal gas works, and about $1,000,000 for enlargement of the municipal slaughterhouses. All these improvements, however, must be carried out by home industry, if possible, in accordance with the Government's order.

A dispatch from Tashkend states that Krupp, the German machinery and gun makers, will establish extensive works in Turkestan in order to take advantage of the high duty on all classes of machinery. They will specialize on cotton-factory machinery so that they may continue to supply the numerous factories said to be starting in that country. Krupp's will not confine themselves to the manufacture of one class of machinery.

MEXICO.

AMERICANS PURCHASING LANDS FOR INDUSTRIAL PURPOSES.

Consul Jesse H. Johnson, of Matamoros, furnishes the following information concerning the recent progress on the Mexican side of the Rio Grande and the opening by permit of the prohibited zone to foreign settlers:

A syndicate of Americans has purchased 450 acres of land within 2 miles of Matamoros for $10 gold per acre. It is already at work on the land, and it is said the whole tract will be utilized for garden purposes and factories. A Texan says he will put up a $200,000 cotton-seed oil factory near the business part of the city. He intends to manufacture lard, refined oil, soap, etc.

About 80 miles up river from Matamoros 10,000 acres of land has been purchased by a Minnesota company for $10 gold per acre. One of the company told me that he would erect a home on the land

and cultivate the entire tract. The same company is contemplating the purchase of another tract of 104,000 acres.

The Mexican Government is now granting special permits to foreigners to buy land in what is called the prohibited zone, which embraces all lands within 20 leagues of the Rio Grande.

ARGENTINA.

GROWTH OF BAHIA BLANCA AS A SHIPPING AND DISTRIBUTING POINT.

In calling attention to the nearly finished electric power installation of the Buenos Aires and Pacific Railway at Bahia Blanca, which will be the most perfect for its size in Argentina, Consul-General R. M. Bartleman, of Buenos Aires, says:

The completion of this important enterprise shows the needs of Bahia Blanca to be constantly increasing, with its steadily growing population and rapidly growing trade. Each year it becomes the distributing and shipping center for a greater and greater area of rich and fertile territory. Official figures for January, 1910, give the population of the county of Bahia Blanca as 69,000, of which some 54,000 are in the city and its suburbs Ingeniero White and Puerto Galvan. The completion of the Rosario, Puerto Belgrano Railway will undoubtedly stimulate the growth of Bahia Blanca, providing direct rail communication between that city and Rosario (population, 176,075), across the fertile and highly developed Province of Buenos Aires (population, 1,730,232). It will also be the entering wedge into the hitherto absolute control of Bahia Blanca by the English-owned railways. There is probably no port in the world, outside the dominions of the United Kingdom, so completely controlled by British capital and interests as is the important city of Bahia Blanca, whose fine harbor and shipping facilities will be powerful factors in enabling it to become one of the world's great ports.

GLASS INDUSTRY.

FRANCE.

RESTRICTION IN OPERATIONS AND THE EXPORT TRADE.

Consul James E. Dunning, of Havre, forwards the following report on the condition of the glass industry in France, compiled by a member of the consulate staff from various mediums of information which have reached that office:

The French glass industry is at present not especially prosperous, at least in some of its most important branches, particularly in the window-glass section. The reasons are numerous; among them the frequent strikes which have lately handicapped the French and Belgian industries, leading to the creation of factories in countries previously supplied by the above-mentioned countries, and also the fact that the Belgians, no longer having their former outlets, are trying to monopolize the neighboring French market, it being necessary for them to export practically all their output, their home demand being so small.

That the Belgians have even thought of controlling the French market is because their cost of production is lower, and to add to their favorable position they have lowered their wages standard,

whereas in France the manufacturers have not touched the pay lists and also carry the burden of certain social laws.

Sunday rest, as a Senator who voted for it said, represents 7.57 per cent of the cost price. The Workingmen's Compensation Act, it is claimed, is much more severe in France than in Belgium, and the new Pensions Law will soon come into force and increase the burden. In addition, raw materials cost less in Belgium than in France, coal is cheaper, and sulphates are 35 per cent less expensive in the former country.

The French exports of window glass of $3,000,000 to $5,000,000 annually prior to 1905 have since dropped to $1,750,000, $1,350,000, $1,500,000, and $1,930,000, because of the creation of factories in countries formerly supplied by France. These figures would be even lower if the steadily increasing purchases made by the French colonies were deducted.

EXTENT OF MANUFACTURING.

The glass industry is chiefly established in the Departments of Nord, Meurthe and Moselle, Seine, and Loire. The older factories, dating from the time when the only combustible was wood, are in the neighborhood of large forests, such as those of St. Gobain, Baccarat, Folembray, and Vieille-Loye. When the use of coal became general, factories sprang up around the great mining centers, which explains the existence of so many in the Department of Nord and in the region of St. Etienne-Lyons. In the suburban districts of Paris, Marseilles, and Bordeaux there are several which use up the broken glass collected in these cities.

In France there are 20 window-glass factories. The chief centers are: Lyons, Rive-de-Gier, Givors, Andrezieux, Gueret, Boisse-Peuchot, Marseilles, Besançon, Nancy, and the Department of Nord. Looking-glass factories are four in number, of which the most important is the St. Gobain Company, which owns three factories in France, two in Germany, and one each in Italy, Bohemia, and Belgium. There are also about 40 glass-bottle factories, situated mostly in the wine and mineral-water districts. Table-glass factories are chiefly about Paris and Nancy.

Whereas table glass, looking-glass, and crystal have about maintained their "status quo" in the last few years, window glass is on the decline, as the following figures show:

	1900.	1908.
Exports	$777,200	$462,000
Imports	186,600	234,600

BELGIAN ACTIVITY.

In Belgium, on the contrary, this industry is going ahead by leaps and bounds, as a comparison of the two years, 1896 and 1906 (the latest obtainable), indicate:

	1896.	1906.
Number of factories	50	69
Number of workmen	21,699	31,100
Horsepower of machinery	12,782	24,360
Number of workmen in window-glass factories	9,763	14,500

The glass industry in Belgium is mainly confined to the Provinces of Hainaut, Brabant, Liege, and Naumur, the first having 37 factories,

or three-fourths of the total number in Belgium, and 14,044 workmen, or two-thirds of those employed in the glass industry in that country. In addition, it is the only Province in which one finds all the different branches of the industry represented. It is also close to France. The total production of glass in Belgium for 1906 was valued at approximately $19,630,000, of which the greater part was exported. For example, 90 per cent of the looking-glass, 75 per cent of the table glass, 65 per cent of the window glass, and 60 per cent of the art bottles for scent, etc., were exported.

AUSTRIA.

ESTABLISHMENT OF EXPERIMENT GLASSWORKS IN HAIDA.

Vice-Consul Edward T. Heyn, of Reichenberg, furnishes the following information concerning the recently established glassworks, in connection with the trade school in Haida, the center of the Bohemian hollow-glass industry:

The establishment aims to give students and other glass workers practical instruction in the various forms of glass making, and offers certain courses preparing its men to become managers of glass and smelting works. It gives manufacturers, workmen, and refiners an opportunity to have their inventions examined and tested. By practical experiments, especially by the smelting of lead crystals, colored glass, compositions, and glass fusions, investigations are made as to the conditions and manner in which such glasses can be faultlessly smelted, the results and methods being made known to the glass factories.

The works contain a glass-smelting furnace, glass-tempering furnaces, and two cooling furnaces, fired with generating gas, and connected with a chimney 98 feet high.

CUBA.

IMPORTS OF GLASS AND GLASSWARE AND WHENCE IMPORTED.

In answer to an inquiry, Consul-General James L. Rodgers, of Habana, furnishes the following information concerning the glass trade of Cuba:

The following statement shows the imports of glass and glassware into Cuba, according to customs classification and the countries whence imported, during the fiscal year 1907–8, the latest year for which statistics are available:

Whence imported.	Bottles.	Electric lamps.	Window glass.	All other glassware.
United States	$52,504	$35,217	$1,633	$207,287
Germany	23,522	.....	10,625	692,298
Spain	84,265	.....	.....	.....
France	35,002	.....	1,465	94,986
United Kingdom	33,963	.....	2,977	41,687
Belgium	.....	.....	16,328	154,538
All other countries	4,844	8,821	.....	47,540
Total	234,100	44,038	33,028	1,238,286

The quantities of the foregoing classes of imports were: Bottles, 4,043,649 kilos (1 kilo=2.2 pounds); electric lamps, 298,176 in

number; window glass, 419,767 kilos; all other glassware, 12,673,971 kilos.

In the products "under all other glassware" largely composed of table service, Germany holds a very leading place, about 56 per cent of the whole, the United States following, with about 17 per cent of the whole. There is a distinct demand for bottles of the higher priced kind, such as toilet water and perfumery bottles, etc.

The retail and wholesale prices of glassware do not vary greatly from those which prevail in the United States. The imports of American glassware are sold at prices to meet the prices of the German products, and that means very little advance over American prices.

The glass trade of Cuba is probably more limited than that of any other country of equal population.

The one glass factory in the island manufactures colored glass bottles, such as are used for bottling beer, wine, etc.

A canvass of the Cuban glass trade by American salesmen who can speak the language, and who can offer as good terms and products as the European manufacturer, would result in a larger importation. In order to secure such trade the American salesmen would have to conform to the wishes of customers in relation to styles, types of bottles, etc., as well as to labels and all other features now so generally observed by the European salesmen, and the packing would have to be absolutely as efficient as that of the European houses, which entails only a small percentage of loss in transit. [A list of leading houses handling and importing glass and glassware in Cuba is on file in the Bureau of Manufactures.]

BRITISH TIN-PLATE TRADE.

A CONVENTION DISCUSSES THE CLOSER CLASSIFICATION.

Liverpool is closely connected with the English tin-plate trade, Consul Horace Lee Washington giving the declared exports to the United States of tin and terneplates alone at $2,250,485 in 1907; $3,239,542 in 1908, and $3,481,264 in 1909. He adds:

At the instance of the Liverpool Chamber of Commerce a meeting of manufacturers of tin plates was held April 14 to consider altering the nomenclature of tin plates, and the following is a press account of the meeting:

Hitherto it has been the custom to describe tin plates as coke and charcoal—descriptions which properly apply in the old days when charcoal iron was made. It was pointed out, however, by the Liverpool delegates that there was now only one firm making a real charcoal tin plate, and the designation was still applied to good quality steel tin plates, and even to common coke wasters. It was, therefore, a misdescription, and their suggestion was that an effort should be made to get an alteration made in the principle of branding. They thought makers might be induced to specify the quality of steel, and provide some indication of the quantity of tin per box. A long discussion followed, from which it was apparent that the opinion of merchants was by no means unanimous with regard to the proposals. To bring the discussion to a point a Liverpool representative moved that "In the opinion of this meeting, the words 'coke' and 'charcoal' as applied to tin plates should be discontinued." On a division seven voted for the proposition and seven against. The opposition came mainly from the Birmingham merchants who, while they were not entirely hostile to the proposal, expressed the opinion that it would not be possible to give effect to it. As the chairman did not give a casting vote, the proposition fell, but it was considered that the discussion of the subject will have a good effect.

MACHINE TOOLS IN GERMANY.

DOMESTIC AND EXPORT TRADE DEPRESSED DURING PAST YEAR.

Consul Thomas H. Norton, of Chemnitz, offers in the following a partial explanation of the failure of the machine-tool industry to keep pace with the revival of other lines in Germany:

One of the few branches of German industry which does not seem to share in the general renewal of activity in the Empire's production and commerce is the manufacture of machine tools. This is due, to some extent, to the fact that orders for machinery are usually given far in advance of the time of delivery. Because of this the machine-tool trade suffered no setback during 1908, the production even going slightly ahead of 1907. The past year has witnessed, however, a very decided retrograde movement, both in the domestic and in the foreign market. The following figures giving the amount and value of the exports in this branch for five recent years are exceedingly instructive, and show clearly the very decided check experienced in the rapid expansion of this branch, weights being given in metric tons of 2,204 pounds each:

Years.	Metric tons.	Value.	Years.	Metric tons.	Value.
1900	10,893	$1,870,000	1908	45,967	$16,060,000
1905	33,076	4,650,000	1909	36,510	12,380,000
1907	45,265	15,780,000			

In the first seven years of this century, the exports had been more than quadrupled in amount, while the value increased sevenfold.

As far as the home market is concerned, it is a well-known fact that many of the greater machine works enlarged their mills to an unusual extent immediately prior to the crisis of 1907. Much of the extensive plant then ordered, and installed later, in 1908, is still unused, despite the very pronounced revival of activity in the metal trades during the latter half of 1909. At present machine tools command much lower prices than formerly, and in dealings with many large establishments they are sold on a basis practically of barter, i. e., on condition that iron and steel supplies to a certain value shall be ordered from the purchasing company.

The imports of machine tools into Germany have been for two years about where they were in 1900. The following table shows the fluctuations in the movement:

Years.	Metric tons.	Value.	Years.	Metric tons.	Value.
1900	6,981	$1,600,000	1908	4,432	$1,440,000
1905	5,805	1,000,000	1909	4,548	1,580,000
1907	7,233	2,260,000			

The United States has furnished on an average 65 per cent of these imports. It has been a cause of surprise and even dissatisfaction to Germans that German tool manufacturers have not been able to meet local demands with local production, having the further aid of a tariff. It seems, however, next to impossible to wean a certain number of German metal workers from their preference for American machine

tools. This dates back to the period when American manufacturers were pioneers in the specialization of such products, their various machines, lathes, planers, shapers, etc., having been for many years unexcelled in perfection of construction.

WOODEN WATER PIPES.

AUSTRALIAN FACTORY STARTED FOR SUPPLYING A HEAVY DEMAND.

In reporting the recent establishment of a factory in Sydney, Australia, for making wood pipes for conveying water, Vice-Consul-General Henry D. Baker gives the details:

In speaking at the opening of the factory the Minister of Works of New South Wales said that the cast-iron and steel pipe factories could not at present fully supply the requirements of the State. So large was the government demand for steel pipes that the manufacturers found it most difficult to fill even the State's orders. These wood pipes were not going to supersede iron or steel pipes, but they were going to meet a demand that could not readily be met by the heavier systems of pipes. He saw in the new industry great possibilities for inland town water supplies, mines, and works of that character. He said that in some of the important towns large steel pipes laid down a few years ago were actually crumbling to dust, and if the wooden pipe would effectively overcome these conditions a great want would have been met. A most important fact to be considered was that of cost. Here the figures given by him were in favor of wood pipe. For example, a 3-inch wood pipe to withstand a 100-foot head pressure would cost 21½ cents a foot, in cast iron 45½ cents, and in steel 38⅜ cents. In the larger diameter the difference was still more apparent. Taking the same pressure, a 12-inch wood pipe costs 72½ cents per foot, against $1.55 for cast iron. Another matter bearing intimately on the cost was that of weight. A 3-inch wood pipe weighs about 4 pounds per foot, a cast-iron pipe 12 pounds per foot; a 12-inch wood pipe weighs 15 pounds per foot, the cast iron 77½ pounds. This entailed a tremendous saving in freight. It was estimated that with inland towns a difference of 50 per cent in cost could be shown in the installation; if this was so it would be a tremendous advantage, as it would make water extension in country towns a possibility in many cases where it was now impossible. Many towns were anxious to install pipes, but had not the rating power to do so. If they had the advantage of 50 per cent reduction it opened great avenues in this direction. He stated the Public Works Department was about to give the wood pipes a trial on a length of about four miles of water main. He congratulated the company upon the introduction of this new industry into the country, and wished them the fullest measure of success. (The company has Australian patents, and according to plans which I understand originated in the United States.)

The visitors were shown the process of manufacture. Briefly, the wood pipe is constructed of staves of timber, dressed on both sides, with galvanized steel wire, and then covered with a heavy coating of bituminous composition and wrapped with hessian cloth. A few minutes was sufficient to convert the rough-sawn lumber into the finished pipe.

POTASSIUM CYANID MANUFACTURE.

BEET SUGAR MOLASSES WASTE CONVERTED INTO A VALUABLE PRODUCT.

Writing from Prague, Consul Joseph I. Brittain says that a large plant recently constructed in Austria for making potassium cyanid from thick molasses, a by-product from beet-sugar factories, is attracting attention from other countries where similar manufacturing establishments are contemplated. The consul's description of the process will therefore be of value:

The only factories where potassium cyanid is made from a by-product of sugar beets are two in Germany and one at Kolin, 40 miles east of Prague, Bohemia. The molasses by-product is sold to factories manufacturing alcohol, which by fermentation and distillation produce a first quality 97.7 per cent pure alcohol for medicinal and chemical purposes, and a second quality denatured for fuel and light. The refined wholesales at $12.27 and the denatured at $9.13 to $9.54 for 26.41 gallons. The former pays an internal-revenue tax of $18.27 per 26.41 gallons.

After making the alcohol there remains a still thicker and darker colored molasses, resembling pine tar in appearance. This residue is sent from the various alcohol factories in tank cars and barrels to Kolin where, after subjected to steam heat, it flows into long metal troughs and to retorts where it is burned for several hours, until the gas escapes into pipes. The material then passes through an extended system of pipes, undergoing various processes until it reaches the place where it is mixed with lye, when the potassium cyanid is formed, after which the moisture is extracted by centrifugal force. The powder is then conveyed to another room, where it is hydraulically pressed into cakes and packed into boxes for shipment. The output of the Kolin factory is about 240,000 pounds a month, and is sold to gold and silver mining companies in South Africa.

The building where the gas is generated is 260 by 68 feet, and contains eight furnaces, with 56 retorts for burning molasses and generating gas. The main building containing the pipes and machinery, as well as the centrifugal machinery, is 195 by 45 feet. The machinery and boiler rooms are 67 by 65 feet, and 40 by 67 feet, respectively. The ceilings are 23 feet high to the cornice. In building construction the use of wood has been avoided wherever possible, and owing to the poisonous nature of the product every precaution has been taken to prevent the escape of gas into the buildings.

From the centrifugal machinery up to where the cakes of potassium cyanid are pressed and packed workmen are obliged to wear respirators and specially made gloves. On arrival at the factory workmen must change their clothing, lockers being arranged, and before leaving the works they must bathe, shower and plunge baths being provided. There is also a dining room in an adjoining building. It is necessary to run night and day; 130 men work on each shift; no boys or women are employed. Many workmen walk three to four miles from surrounding villages. They work 11 hours, quitting at 6 a. m. or 6 p. m., according to shifts, and have one hour for meals. The common laborers receive 41 cents and the skilled workmen 91 cents to $1.02 per day. The trust controlling the manufacture of potassium cyanid from molasses pays $1.52 to $1.62 for each 220

pounds of raw material. Before the discovery of this new process the molasses was considered worthless, while there are now several more by-products of commercial value after producing the potassium cyanid.

GERMAN PORCELAIN.

CHANGE IN THE CLASS OF WARE EXPORTED TO THE UNITED STATES.

Consul-General Frank Dillingham, of Coburg, reports that representatives of various German ceramic factories who do a large business with the United States believe that German manufacturers can no longer make money by sending cheap porcelain to the United States. He adds:

Reductions in prices, which no longer allow enough profit, are made necessary by the manufacturers of cheap porcelain in the United States, who have so greatly improved the technical branch of their factories, that they can now operate almost as economically as the German manufacturers. On the other hand, medium priced wares, with some original designs to give them the appearance of being more expensive than they really are, still find ready sales in the United States. The decorations on such goods can be made as bizarre as desired, but the forms of the articles must show as clearly and distinctly as possible the use to which they are to be put.

The coloring on the medium priced articles for export to the United States at present runs to very pronounced effects, while in fine porcelain services hand-painted corn-flower designs are being readily sold, as are also those with miniature pictures.

MATCH MONOPOLY IN FRANCE.

GOVERNMENT REPORT ON OPERATIONS—INCREASED REVENUE.

The annual report of the French match monopoly for 1908, just published, is summarized by Consul-General A. Gaulin, of Marseilles:

The total receipts during that year amounted to $7,817,230, an increase of $235,155 over 1907. The net profits amounted to $5,684,615, or $155,329 gain. Ordinary wooden sulphur matches furnished 55.63 per cent of the total quantity delivered to the public; wooden safety matches, 41.16 per cent; and wax matches, 3.21 per cent. The exports were valued at $6,157, being $4,120 less than in 1907. The average consumption per capita was 1,137 in 1908, representing $0.221.

The 6 match factories in France, all owned and operated by the State, are at Marseilles, Pantin-Aubervilliers, Trélazé (Maine-et-Loire), Aix-en-Provence, and Saintines (Oise). The average wage for a 9-hour day is $1.35 for men and $1.03 for women, against $1.24 and 85 cents in 1900, and 84 cents and 53 cents for a 10-hour day in 1890. The amount disbursed during 1908 for pensions, gratuities, medical aid, and other benevolent purposes was $69,487, representing about 10 per cent of the aggregate wage payments. The employees numbered 683 men and 1,219 women.

PETROLEUM ENGINES.

GREAT SAVING IN THE COST OF FUEL CLAIMED.

Vice-Consul George B. Stephenson, of Liverpool, furnishes the following information concerning the arrival of a Swedish model fishing craft in the Mersey, on a voyage for the exploitation of a new petroleum engine which has attracted a good deal of attention:

This Swedish fishing craft, equipped with an oil marine engine, is here for a few days demonstrating the utility of its engine. The boat is about 60 feet in length, 19 feet 3 inches in beam, and 9 feet in depth, and can make 9 knots an hour with its engine alone; it also carries sail. The engine, of 80 horsepower, uses refined petroleum, but crude oil can be used with an increased consumption of from 5 to 10 per cent, which will result in notable savings in the working expenses of the higher-power engines. With refined oil, the consumption of fuel does not exceed 0.25 kilo per horsepower hour at full load. With crude oil costing $1.25 per 112 pounds the fuel expense for a 25-horsepower engine taking 0.62 pound per horsepower hour will not amount to more than 17 cents at full load, or, at the same ratio, a craft of 80 horsepower will consume fuel worth less than 90 cents per hour.

The method of getting this engine before the public is worthy of note. The home port of the craft is Stockholm, which it left two years ago, since which it has visited Continental ports and ports in the British Isles, having sailed in all about 10,000 miles. It leaves here, via Ireland and Scotland, for Stockholm, there to refit and proceed to Mediterranean ports. The crew of seven speak English, one of them being specially qualified to explain the workings of the engine. This expert works in conjunction with the local agent. [A detailed technical description of this new engine accompanied the report and may be seen in the Bureau of Manufactures.]

CANTON CEMENT WORKS.

VERY LITTLE OF THE PRODUCT MARKETED THUS FAR.

The following information concerning the Chinese government works established at Canton early in 1909 for the manufacture of Portland cement is furnished by Vice-Consul-General Myrl S. Myers:

The entire plant consists of the factory, a dwelling for the manager, several large offices, and dwellings for the laborers, all resting upon piles in a fork of the Pearl River, the factory being constructed of steel frames. The plant has eight kilns, and a capacity of 500 casks, of 400 pounds each, per day, but the present output is only 250 casks. A 600-horsepower engine and several small motor engines supply the motive power, and a small electric plant furnishes the light for the factories and office buildings. Attached to the works is a shop for the manufacture of the casks, which cost 24 cents each. The machinery for the entire plant was purchased in Germany. The plant has cost the Government about $1,122,000, which amount has been taken from the education fund, to be returned from the profits of the works. The workmen number 250, whose average wage is 14

cents per day and quarters. The only foreigner employed is a German chemical engineer.

The rock used in the manufacture of the cement is found about 80 miles from the works, is a pure limestone, and well suited for cement purposes, yet the output is not uniform, but this is attributed to the variable qualities of the coal used. Although little of the product has been put on the market, there is no reason why these works can not produce cement of first-class quality and at prices as low as that produced by its competitors. Of the 12,000 casks sold, 2,000 were used in Canton, 2,000 were shipped to North China, and 8,000 went to Manila. A new director has been appointed.

ELECTRICAL PROGRESS IN ARGENTINA.

GENERAL ACTIVITY IN LIGHT AND POWER INDUSTRIES.

Vice-Consul-General Charles Lyon Chandler, of Buenos Aires, has prepared the following notes, showing the activity in the electrical light and power business in Argentina:

The receipts of the Cordoba Light and Power Company for the last nine months of 1909 were $634,084 in United States currency.

The tramway companies of Buenos Aires carried 281,712,392 passengers in 1909, as compared with 255,073,846 in 1908 and 225,040,746 in 1907. Their receipts for 1909 were: Anglo-Argentine, $11,083,698; Lacroze de Buenos Aires, $1,434,600; Electricos del Sud, $67,070; Puerto y Ciudad de Buenos Aires, $182,518. All these companies' receipts were from 4.5 to 6 per cent greater in 1909 than in 1908.

The steady increase in the output in kilowatts of the German Trans-Atlantic Electric Light Company, of Buenos Aires, for the past three years is shown in the following table:

Year.	Light.	Power.	Traction.
1907	19,216,914	8,061,005	44,401,263
1908	28,105,003	10,513,438	46,359,306
1909	35,036,609	12,661,971	50,229,307

As the private output of this company for 1909 for private lighting and power, not including public lighting and traction, was over 40,000,000 kilowatts, the reduction of 5 per cent for every 5,000,000 kilowatts in excess of this, as called for by article 2 of the company's concession, became effective January 1, 1910.

The directors of the River Plate Electricity Company have authorized their manager, Mr. V. Lindop, to purchase two squares of land from the Mercados de Frutos Company, in the port of La Plata, Argentina. A new riverside station is to be erected thereon, current generated, 3 phase, 6,000 volts, and conducted to La Plata by underground cables, where it will be transformed to continuous current for the center of that city, whose population is now 97,000, and to low tension, 3 phase, for the outskirts. The first plant will consist of three marine-type Babcock & Wilcox boilers—iron chimney and condensed draft—and two 2,000-kilowatt turbo sets with surface condensers. Tenders are now being called for plant. Address of company: Belgrano, 432, Buenos Aires, and work will begin during this month (February, 1910). It is expected that the plant will be in running order by April, 1911.

CITRIC ACID IN GERMANY.

NOT TECHNICALLY PRODUCED ON A COMMERCIAL BASIS.

Consul-General Robert P. Skinner, of Hamburg, reports that while experiments have been in progress in Germany for some years for the technical production of citric acid in commercial quantities no economical results have been obtained. As to the outlook therefor, he says:

The earliest workers herein seem to have abandoned the field, owing to the difficulty of procuring raw material at reasonable figures. Some persistent chemists are continuing their experiments, and the perhaps valuable suggestion is made that as the problem of producing fermentable sugars from wood waste is said to have been solved in the United States it might be that by using sugar produced from wood the German laboratory process could be made commercially profitable in the United States. The coupling of the two inventions therefore holds out some slight promise, dependent upon the American supposed success in obtaining sugar from wood waste.

There are only two factories in Germany making citric acid from Sicilian citrate of lime upon a large scale, and as their output does not suffice to supply domestic requirements large quantities are imported annually from France and Great Britain, where the most important producing establishments are located.

Although Italy supplies the most of the raw material, citrate of lime, there are no citric acid factories in that country of any consequence, and Italy is therefore an importer of the finished acid.

There has been a considerable overproduction of citrate of lime in Italy during several years past [concerning which a number of reports have been published from consular officers.—B. of M.].

Jamaica lime juice is also used in the manufacture of citric acid, but the available quantities are small and exercise little influence upon the prices of citric acid.

WOMEN WORKERS IN GERMANY.

MANY OF THEM ENGAGE IN THE FREE PROFESSIONS.

Consul-General T. St. John Gaffney, of Dresden, furnishes the following report on the increase of female workers in Germany:

From 1895 to 1907 the number of male workers in Germany increased 19.85 per cent and the female 56.59 per cent. In 1907 the number of working women was 8,243,493, against 5,264,393 in 1895. Nearly one-third of the economical activity in the German Empire rests to-day on feminine shoulders. In agricultural work the increase of female labor is astonishing, rising from 2,758,154 in 1895 to 4,598,986 in 1907; in industrial work the increase was from 1,521,118 to 2.103,924. Especially noticeable is the number of women who have taken up the so-called free professions; painters and sculptors have increased from 969 to 12,085 and self-dependent workers from 839 to 1,458.

In music, theaters, and playhouses the number of women has grown from 10,369 to 22,902, in hygiene and nursing from 75,327 to 129.197, and in the service of the church and in missions from 11,378 to 21,453. Authoresses and journalists increased from 410 to 892, the latter having increased 117.6 per cent.

INDUSTRIAL DISPUTES.

AUSTRALIA.

LABOR LEGISLATION IN NEW SOUTH WALES.

Consul-General John P. Bray, of Sydney, transmits a copy of a bill introduced into the legislature of New South Wales and assented to on December 20, 1909, amending the industrial disputes act of 1908. The part of the bill relating to labor, and which comes under the head of new legislation, empowers any police officer above the rank of sergeant, when he has any reasonable ground to believe that any building or place is being used for a meeting for instigating or aiding in a continuance of a strike, to enter such building by breaking open doors, etc., and seize any documents which he may reasonably suspect relate to such lockout, etc. A meeting of two or more persons assembled for the foregoing purposes, etc., shall be declared unlawful. Any person taking part in such meeting, who has reason to believe that the probable consequences of such lockout, etc., will be to deprive the public, either wholly or to a great extent, of the supply of a necessary commodity, shall be liable to imprisonment for twelve months. The bill, in full, is on file in the Bureau of Manufactures.

RUSSIA.

STATISTICS SHOWING DECREASING STRIKES—QUESTIONS INVOLVED.

Consul John H. Grout, of Odessa, in discussing strikes in Russia, says in 1906 there were 6,114 strikes, in which 1,108,406 men participated; in 1907, 3,573 strikes, involving 740,074 men; and in 1908, 892 strikes, in which 176,101 men took part. The 13,995 strikes during 1905, in which 2,863,173 men took part, surpassed the totals of the three years above given. Among the economical considerations which engendered strikes wages stood first, either for higher pay or against contemplated reductions.

The employers were, upon the whole, more ready to give way on questions relating to mode of work, mode of payments, facilities in work, and questions of provision of subsistence and housing, but they tenaciously held out on wages, and, least of all, were they inclined to give way on questions involving staff of administration, considering them as an interference with their special prerogative as masters.

CANADA.

THE MONTREAL LONGSHOREMEN AND SHIPPING COMPANIES.

In transmitting the findings of the board of conciliation regarding the wage dispute between the Montreal longshoremen and the shipping companies, Vice-Consul-General P. Gorman says:

While the finding accepts the contention of the union that the bonus system should be done away with and added to the men's regular wage, it does not grant any further demands for increased

pay. The finding also gives a modified recognition of the union, by calling for a five years' contract between the syndicated longshoremen and the shipping companies, whereby the union agrees to supply the necessary men to perform the work in season; the men, however, will be required to sign contracts individually when commencing the work of each season, etc., thus leaving matters much as they were. The working hours and wages are fixed as follows: Day work, 7 to 12 and 1 to 6, 30 cents per hour; night work, 7 to 12 and 1 to 6, 35 cents per hour; Sunday work, double rates. [The text of the finding of the board of conciliation is on file in the Bureau of Manufactures.]

FACING COMPOUNDS IN GERMANY.

PRESERVING THE MOLD FROM THE HEAT OF LIQUID IRON.

In answer to an inquiry, Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning the preservatives in use in Germany against the influence of liquid iron on the molds:

Molding sand is admitted into Germany free of duty, but it does not appear that any considerable quantities of imported material of this character are offered for sale in this market. German iron founders are, apparently, in the habit of mixing their own facing compositions, but this would not prevent them from purchasing a newer and better composition, if such were offered. The following preservatives against the influence of the heat of liquid iron upon the mold are in use in this vicinity:

(*a*) Charcoal dust or graphite dust as finely ground as possible, or a mixture of charcoal dust and graphite dust for common casting in sand; if it is desired that the castings be particularly neat in appearance silver graphite is used; (*b*) a blacking called "Schwärze," which is used for molds, consisting of sand, clay, dung, etc., mixed wet, and subsequently dried in a drying stove; it is applied also in loam molds and when cores are used; this black material consists of graphite, coke dust, or charcoal dust, mixed with water and in a sufficiently wet state to be applied with a brush.

The following private formula has been used for years in an old Hamburg iron foundry:

(*a*) A pail of graphite, half a pail of finely-ground charcoal, 10 pfennigs (2½ cents) worth of salt, a generous handful of cow dung, and half a pail of water; (*b*) a black wash dressing called "Schlichte," which is applied to models in sand or loam molds, and which consists principally of clay and graphite; (*c*) a pattern powder used to prevent models from adhering to the sand of the molding form, usually lycopodium.

The following are the percentages of some of the recipes in use:

(1) Ground material of old crucibles, 25; ground chamotte, 46.5; green molding sand, 12.5; ground white clay, 12.5; graphite (black lead, Pottlot), 3.5; (2) Chamotte, 12.5; chamotte stone, ground, 50; coke, ground, 12.5; ground white clay, 12.5; graphite (black lead), 6.25; gypsum, 6.25.

[The addresses of Hamburg metal founders, iron founders, and foundry suppliers, transmitted by Consul-General Skinner, are on file in the Bureau of Manufactures.]

STREET PAVING IN LONDON.

COST AND LIFE OF WOODEN BLOCKS IN POPULOUS DISTRICTS.

In answer to an inquiry regarding wood street paving in London, Consul-General John L. Griffiths, of the British capital, submits the following:

In the borough of Hampstead there are now about 9 miles of wood-paved streets, those sustaining the heaviest traffic being paved with Australian hard-wood sectional block, which, including concrete foundation, costs about $3.40 per superficial yard. On roads where traffic is not so heavy creosoted Baltic timber blocks are used, the cost of concrete foundation being about $2.68 per yard. The average life of the wood paving in Hampstead is about ten years and the borough engineer states it has given general satisfaction, as the road gradients in that section vary considerably and wood paving gives excellent foothold for horses on gradients up to 1 in 20.

There are about 15 miles of wood-block roads in the populous borough of St. Marylebone. In the construction of these roads the macadam or other previous paving material is excavated, the ground properly graded, a 6 to 9 inch Portland cement concrete foundation put down with a perfectly smooth surface, and when thoroughly set paved over with creosoted deal blocks 5 inches deep, grouted with bituminous composition. The average life of this paving is ten to fifteen years, according to the amount and nature of traffic. The cost per square yard is $3.28 for 5-inch creosoted deal blocks placed on an 8-inch concrete foundation. The borough engineer states that this paving is very advantageous because it is comparatively noiseless, much more economical to structurally maintain than macadam, and affords a fair foothold for horses, but, owing to its smooth surface and impervious nature, requires more cleaning than macadam.

[Copy of annual report of borough engineer of Hampstead, giving detailed description of streets paved with wood, cost, terms of maintenance, date of repaving, etc., on file in Bureau of Manufactures for reference and consultation.]

FINANCE AND ECONOMICS.

MUNICIPAL ENTERPRISES.

ENGLAND.

ELECTRIC, GAS, WATERWORKS, AND PUBLIC MARKETS.

Consul Benjamin F. Chase furnishes the following information concerning the municipal enterprises of Leeds, England, and the opportunity which they offer for trade in American supplies:

The electric-lighting system was acquired by this English city in 1898 at a cost of $1,969,054, of which $1,058,074—the net value of the plant—was paid by issuing 5 per cent irredeemable bonds. The bonus paid the company was 70 per cent of this amount. There was borrowed $4,739,007, the outstanding debt in 1909 being $3,826,543.

In 1909, 12,395,118 units of energy were sold to 6,590 customers at 4 cents and cost 3 cents. The sources of distribution and income of these units were as follows:

Description.	1908.	1909.	Description.	1908.	1909.
Private lighting ..units..	5,771,597	5,241,523	Income	$552,088	$506,836
Street lighting.....do....	895,009	988,785	Expenditure	236,739	174,795
Heat and power...do....	5,746,225	6,164,810	Gross profit	315,288	332,041
Total .....do....	12,412,831	12,395,118	Consolidated city fund..	83,684	25,540

The more frequent fogs and dark days in 1908 would explain the difference in income. The concern is managed by a committee of the town council, consisting of the mayor, 3 aldermen, and 9 councilors, who also direct the tramway system. The activity manager is paid a salary of £900 ($4,379.85), and the total salaries for this department were $25,970 in 1909.

GAS WORKS.

The city in 1870 purchased the gas plants of two private competing companies, for which it paid $3,893,200, which, together with expenditures since that purchase, made the cost of the works at the end of March, 1909, $9,240,045. The depreciation is estimated at $2,821,570, leaving the present net value $6,418,575. There was borrowed $7,210,669, but payments on indebtedness and the fund on hand March 31, 1909, amounted to $2,842,946. There are three divisions of the plant, with 1,266, 1,174, and 392 retorts, respectively, and eight tanks, with a total capacity of 16,000,000 cubic feet of gas. Street lighting and private illumination are mostly by gas. In 1898, when the electric plant was acquired and a few arc lamps were set up, 11,919 ordinary gas lamps were in use for street lighting, but in 1909 this had been reduced to 1,527 lamps, and there were 14,688 incandescent burners in use. In 1909 3,147,644,398 cubic feet of gas

were made from 294,319 tons of coal, an average of 10,694 cubic feet per ton. The illuminating power of the gas in 1909 was 15.38 candles.

In 1909 there were in use 1,070 gas engines, 6,951 gas stoves, and 10,900 automatic stoves. The cost of manufacturing 1,000 cubic feet of gas sold in 1909 is given as follows: Coal, including wagons, horse hire, storing, oil, etc., 27 cents; all other expenses, including 6 cents for distribution, 20 cents; total, 47 cents. Cost to consumer, 53 cents.

The result of operating the gas works in 1909 is given as follows: Income, $1,925,386; expenditures, $1,451,986; gross profit, $473,399; to city fund, $10,067. The system is managed by a committee of the town council, which meets monthly, consisting of the mayor, three aldermen, and eight councilors. A general manager gets a salary of $3,893 per annum, the total salaries amounting to $25,970.

WATER WORKS.

The water supply of Leeds, owned by the corporation, represents an outlay of $16,540,085. The water is procured from the river Washburne, 15 miles from the town hall. There are four reservoirs in the valley for storage, having the following capacities: 866,000,000, 960,000,000, 750,000,000, and 1,410,000,000 gallons, respectively, a total storage of 3,986,000,000 gallons. In addition to the present system there is now a large new system in course of construction, which, when completed, will have four additional reservoirs.

The water consumption of Leeds in 1909 was as follows: Within the city, 5,732,762,000 gallons; without the city, 135,907,000 gallons; total, 5,868,669,000 gallons. Owing to atmospheric impurities, large quantities of water are required by the city for cleansing purposes. The city has borrowed $16,252,270, with a created debt of $16,356,389, but $2,871,610 of this debt has been paid. The depreciation of the plant is estimated at 20.05 per cent, and its present value at $13,223,458. The working of the system in 1909 gave the following results: Income, $789,772; expenses, $200,155; gross receipts, $589,617; to city fund, $43,900; equal to a rate of 2 cents. The works are managed by a committee of 13 of the town council, including the mayor. They are under the direct charge of an engineer, who gets a salary of $4,866 per annum. The total salaries paid in 1909 amounted to $16,960. The rate for water is as follows: For trade purposes, 12 cents per 1,000 gallons; for domestic use, 5 per cent of the gross rental value of the property, with power to increase to 7½ per cent; for private fire plugs, $10.20, with right to use twice a year. Free water is furnished for general fire protection.

THE CITY MARKETS.

The general market, 300 by 400 feet, is of brick, and contains a hall 240 by 100 feet, hotel, billiard, coffee, and club rooms, and 20 large shops.

The wholesale meat market comprises a market hall for the sale of meat, slaughterhouses, lairages, etc., a basement and cold-storage and chill rooms. In 1909 49,688 animals were slaughtered here, two-thirds being sheep.

The leather market is held four times a year, and the cattle market weekly.

Space in the markets is let by competitive bidding. The outstanding indebtedness of the markets is $1,851,300, and their present net

value $1,928,759. The income from the markets during the fiscal year ended March 31, 1909, was $154,091, the expenditures $165,188, an excess of expenditures, $11,097.

The markets are under the supervision of 12 members of the town council, including the mayor. This committee has also charge of weights and measures and of contagious diseases of animals.

OPENING FOR AMERICAN TRADE.

As will be seen, these enterprises are all of considerable magnitude and are constantly in need of supplies of various kinds. Notice of letting of contracts for these different operations are frequent, but always with too short a time before bids close to warrant submitting them to American manufacturers through proper channels. There is only one way to be ready for competing and that is to study the particular needs in their line by the firms desiring to bid, and to have a local representative authorized to enter the bid when the proposals are published. If this system is adopted a good line of American articles should find a ready market. It would be advisable for American firms entering this market to have their bids put in the name of their local representative and not as foreign firms.

MUNICIPAL TRAMWAYS SUCCESSFUL.

AN ENGLISH CITY CHARGES TWO-CENT FARES AND MAKES PROFITS.

Consul Augustus E. Ingram says that the statement of the Bradford City Tramways for the year ended March 31, 1910, shows a revenue of $1,263,966, an increase of $75,397 over the previous year. The car miles run amounted to 5,436,529, an increase of 60,301, and the number of passengers carried was 50,518,816, an increase of 2,858,805. This gives an average of 149 journeys per head of population. There were 34,042,280 penny (two cents) fares collected, or 67.44 per cent of the total issue. Since August, 1909, the Bradford tramways have been carrying the blind people of the city free of charge (each blind person being provided with a pass, and required merely to inform the conductor of the number thereon), and during that time 43,855 such passengers have been carried. Last year 97,330 was taken from the City Tramways' surplus of receipts over expenses and applied to the relief of the city rates. It is expected that this year a similar or even greater application will be made.

NEW SYSTEM PUT IN OPERATION.

Consul Horace Lee Washington reports the traffic of the street railways of Liverpool, owned by that English municipality, as follows in 1909: Mileage traveled, 11,952,373; passengers conveyed, 121,532,940; receipts $2,727,767, which left a net profit for the year of $400,242, while the contribution of the system to the relief of the city rates amounted to $133,411. The experiment of cars wholly first class was initiated on one of the routes in 1908. Experience proved the necessity of reserving the inside of the cars only for first-class traffic, while utilizing the upper deck at the usual prices. Since that course was adopted the earnings of the first-class cars have increased. So satisfactory is the system regarded that it has been extended to a second route, the fare to be 2d. (4 cents) for any distance, and the ordinary fare 1d. (2 cents) on the upper deck.

PUBLIC BATHS OF BRADFORD.

SWIMMING, TURKISH, RUSSIAN, DOUCHE, MEDICATED, AND VAPOR.

Consul Augustus E. Ingram furnishes the following information concerning the public baths of Bradford, England:

The year 1905 saw the practical completion of a comprehensive scheme of public baths in Bradford, maintained by the municipality, which cost $292,000, embracing swimming, Turkish, Russian, shower, slipper, medicated, and vapor baths.

During the year ended March 31, 1910, the number of bathers using the baths was 480,361. A most satisfactory feature of the returns is the growing popularity of the cottage baths, of which there are four, which were patronized during the year by 50,000, nearly one-half of whom were school children, free of charge until Friday afternoons. On Friday afternoons and on Saturdays they are open to women, at a charge of 2 cents.

There are nine swimming baths, which were patronized by 387,753 persons during the year, about two-thirds of whom were swimmers, the remainder being bathers who had used the slipper, shower, Turkish, vapor, and electric baths. Of the 13,945 Turkish bathers, 2,383 paid 60 cents each; 4,403, on Wednesday afternoons, paid 36 cents; and 7,159, on Saturday afternoons, paid 18 cents. The number taking electric baths was 3,735, of whom 1,935 took them under medical advice.

In the Turkish and medicated department the patronage was fully as much as could be handled by the staff, and new and improved baths are being constructed.

Great interest is being taken in the work being done by this municipal institution, in not only inculcating habits of cleanliness and hygiene, but in encouraging scholars to become proficient swimmers. At all the swimming baths those in charge are qualified instructors, and the children allocated from the schools, free of cost, are taught swimming by them.

[Consul Ingram also reviews the work done by the charitable societies of Bradford in furnishing fresh-air outings, theatrical, and other entertainments, convalescent homes, athletic sports, etc., to orphans and other poor children, newsboys, bootblacks, etc. This report may be seen at the Bureau of Manufactures.]

GERMANY.

A MODEL CITY MANAGEMENT OF CARING FOR THE POOR.

Even in Germany, the land of system and order, Consul Talbot J. Albert says the city of Brunswick is celebrated for its charity organization. By many it is considered the best and most complete and therefore a model.

The city has 145,000 inhabitants, and is said to cover a larger area in proportion to its population than any other in Germany. While the city is for the most part compactly built, it has several small parks near the center, a number of large market and other open places, and some broad streets with promenades shaded by trees. This area is divided into 26 administrative districts for the poor and 26 districts for orphans.

The mayor is the president of the board of administration. He has an official staff, including a head physician, also a specialist for

eyes and another for ears. Each district for the poor has its director, from seven to sixteen male guardians or caretakers, and from one to five female, and a practicing physician assigned to it. The districts for orphans have also their guardians or caretakers, less in number, usually the same persons as for the poor. These caretakers are chosen from different classes of the population, merchants, teachers, persons living on their incomes, etc., and are honorary positions without pay. By this systematic organization poverty with its attendant evils is reduced to a minimum.

VOLUNTARY BENEVOLENT ASSOCIATIONS.

There are 110 benevolent associations of different kinds, but no local charity organization society. Under the head of recreation for children are to be mentioned the following:

Ferienkolonieen, sending of school children away for summer recreation. Kinderheilstaetten an deutschen Seeküsten, lodging and nursing of sick and weak children in the sea hospice at Norderney. Kinderspeiseanstalt, supplying school children with midday nourishment. Seehospiz in Norderney, reception of sick and weak children for about six weeks in the summer half year. Sommerpflege, the quartering of children needing recreation in the Harz Mountains during the summer holidays. Speisung armer Schulkinder, feeding of poor school children. Volkskindergarten, keeping and caring for children of the less well-to-do during the day for the weekly sum of 1 mark (23.8 cents). Volkskueche, giving of cheap and nourishing food, especially to children and the sick. Waldspiele, recreation for needy children in the woods during the summer holidays.

These institutions are supported by the benevolent contributions of citizens. They are collected by persons deputized for that purpose with an official book. The contributions are usually small, generally 1, 2, or 3 marks, rarely exceeding 10 marks. Fairs, bazaars, and concerts are also given for benevolent associations.

A novel association is the Brockensammlung (crumb collection). This society receives presents of cast-away clothing, household articles, etc., of all sorts, which are sold to the less well-to-do. Even the ends of cigars cut off by smokers are collected and turned into snuff. Over one hundred needy children are clothed and aided by this institution. The city has excellent public baths, which are patronized by the children, and theater performances are given for them at Christmas and Easter at reduced prices.

BANKS AND BANKING.

GERMANY.

LARGE CITIES WILL BORROW THROUGH ONE CHANNEL.

The proposed plan for a municipal bank on a large scale in Germany is explained by Consul-General Richard Guenther, of Frankfort:

The want of such an institution to provide for the money requirements of the various provincial, county and district, city, town, and community governments has long been felt in Germany, where these public corporations appear continuously in the home money markets with bond issues for modern improvements (electric works for lighting, traction, and supplying motive power to industrial establishments, gas, water, and drainage works, schoolhouses, exposition halls, hospitals, and other buildings for public use, apartment dwellings for officials and the working classes, etc.). Municipal loans have

not met as favorable a reception as the loans of mortgage banks, of the federal and state governments, and of financial and industrial joint stock companies, which latter generally pay a higher interest rate.

At the end of 1906 there were 222 German municipal corporations having outstanding bonds of various issues, interest rates, and redemption periods. Most of these bonds have a limited market; there is no lively business in them and their prices are not frequently quoted, hence their valuation is not as good as that of other classes of bonds in which there are daily transactions in all the German, and for some even in foreign, money markets.

The projected Central Municipal Bank is to issue its own bonds (secured by the bonds of the individual municipal corporations), which will be listed on all the German bourses and, expectedly, will find investment places in the money markets of European countries (Netherlands, Belgium, Switzerland, France, and England). The combined indebtedness of German communities and municipalities (having a population of over 10,000) was in the year 1881 but 772,000,000 marks (mark = 23.8 cents), in 1907 it amounted to 5,296,000,000 marks, and since then has increased by several hundred millions. At present these hundreds of corporations compete with each other in the financial market, and labor under serious disadvantages. When unified in one central and well-known institution, they can obtain funds promptly and at a more favorable rate of interest than heretofore, because the bonds issued by the great Central Municipal Bank will command a higher price and find ready disposal any day and in all German money markets, besides having fair prospects of coming in demand by foreign investors.

A working capital of 25,000,000 marks is deemed sufficient to start the new Municipal Bank.

DEUTSCHE BANK POWERFUL FACTOR IN FOREIGN TRADE.

Consul-General Guenther also writes that the banking business in Germany was generally profitable during 1909. Concerning the Deutsche Bank, the most prominent and widely extended of the German stock companies engaged in banking, he says:

The paid-up capital of this bank is 200,000,000 marks (mark= 23.8 cents), and its reserve fund is 105,700,000 marks. From the earnings during 1909 a dividend of 12½ per cent is to be paid. The actual turnover of the company during the year amounted to 101,780,000,000 marks, the highest in its history.

This great financial institution has been and still is a powerful factor in German progress at home and abroad. It has financed and built various railroads in oriental countries, thereby furnishing profits to German industries and employment to thousands of German workmen at home and abroad. It has branches in various South American cities, in London, Brussels, and Constantinople, and financial connections the world over. The bank and its branches and agencies promote German exports to and German mechanical and engineering enterprises in foreign countries, without which Germany could not maintain its over 60,000,000 people on an area less than that of the State of Texas.

ENGLAND.

LARGE LONDON INSTITUTIONS ABSORBING THOSE IN OTHER CITIES.

Consul-General John L. Griffiths, of London, furnishes the following information concerning large financial amalgamations in England during the past year:

The London Joint Stock Bank amalgamated with the York City and County Banking Company, thus acquiring branches covering nearly the whole of England.

The London and County Banking Company amalgamated with the London and Westminster Bank. This amalgamation is notable for the reason that the latter was the first joint stock bank to be created, and had never established branches beyond London suburbs.

The London City and Midland Bank, pursuing a definite policy, absorbed a leading Bradford bank, and thereby obtained an important business in the center of the woolen trade.

Parrs Bank strengthened its foothold in the west of England through an alliance or amalgamation with an old established banking company there.

Referring to this tendency toward banking amalgamation, the London Times says:

> It is impossible to withstand the law of evolution, and the boards of several of the lesser London banks must, we imagine, be considering whether they will adopt a policy of expansion by absorbing some of the smaller institutions which remain, or themselves face the position with increasing competition from powerful rivals, who may in a few years force them to deplore lessened profits at their shareholders' meetings, and finally to cause their institutions to become one of the absorbed.

During the last forty years the number of banking offices in the United Kingdom has more than doubled relatively to the population. A new departure was made in 1909 by one of the joint stock banks in forming a company to undertake the business of trustees and executors, the whole of the shares, with the exception of those held by directors to qualify them for their position, being held by the company.

JAMAICA.

KINGSTON MERCHANTS DESIRE MORE FAVORABLE TERMS.

Consul Frederick Van Dyne, of Kingston, writes that the manner in which American firms make drafts against Jamaican merchants and the matter of short postage have been the cause of complaints to that consulate. He says:

It is the practice of some American houses to draw at, say, sixty days after date, and sometimes thirty days have elapsed before the bill, which is rendered at the same time the draft is drawn, reaches the Jamaican merchant. For example, in a case now presented to the consulate the bill was dated February 18, the draft was drawn on that date, but the bill did not reach Jamaica until March 7. The local merchants think these drafts should be drawn so many days after sight. As the terms of credit usually extended by American firms are much less favorable than those given by British and German houses, it would seem that this reasonable request should be granted.

Another frequent cause of complaint is short postage on letters from the United States. The postage on an ordinary letter from the

United States to Jamaica is 5 cents. When a careless American correspondent uses a 2-cent stamp the person addressed here has to pay not only the deficiency, 3 cents, but another 3 cents as penalty. While this may seem a small matter it is a source of considerable annoyance and complaint.

INSURANCE MATTERS.

RUSSIA.

STATISTICS SHOW HIGH LOSSES—CONSIDERABLE REINSURANCE.

Consul-General John H. Snodgrass, of Moscow, furnishes the following statistics concerning fire insurance in Russia:

During 1907 there were fifteen joint-stock fire insurance companies in operation in Russia, of which two were engaged in reinsurance. The premiums collected by the thirteen companies taking direct risks amounted to $55,517,000, of which only $30,616,910 was carried by the thirteen companies, the balance being reinsured. The results of fire operations during the year were as follows: Premiums, $30,616,910; reserve premium at the beginning of the year, $14,162,276; loss by fire, $21,725,705; administration expenses, $8,713,303; reserve premium at the end of the year, $14,606,214. The total loss by fire during the year aggregated $45,835,000, of which $24,205,000 was sustained by the reinsurance companies. The loss by fire was 71 per cent of the premiums. The high fire losses were due to systematic cases of arson.

The following statement shows the several classes of fire insurance in Moscow in 1908:

Classes.	Amount.	Premium.	Loss.	Relative percentage.
Buildings	$360,979,425	$1,085,481	$778,379	71.7
Household goods	76,267,884	296,708	145,774	49.1
Commercial insurables, machinery, etc	44,810,510	349,731	183,731	52.5
Merchandise	206,320,175	1,063,789	890,206	83.7
Total	688,377,994	2,795,709	1,998,090	71.5

GERMANY.

AIM OF THE NEW MEASURE NOW BEFORE PARLIAMENT.

In reporting on the new insurance bill, copies of which were recently distributed among the members of the German Reichstag, Consul-General A. M. Thackara, of Berlin, under date of April 8, says:

The measure has already passed the Upper House (Bundesrat), will receive its first reading in the Reichstag in the near future, and will then be referred to a special committee which will sit during the summer. It is difficult to predict the shape in which it will be referred back to the Bundesrat, but in well-informed circles it is thought there will be a number of modifications, and that its final passage will not take place before the coming winter.

The aim of the new measure is to extend the existing provisions respecting sick-benefit insurance to the working classes not heretofore protected; to create a system of insurance for the dependent relatives of deceased workmen; to harmonize the many different laws, sup-

plementary laws, amendments, and decrees regarding workmen's insurance; and to simplify the methods of procedure for the settlement of disputes between employers and employees arising from insurance matters. [The most salient features of the new measure in detail, described by Consul-General Thackara, as well as a copy of the bill in German, may be seen at the Bureau of Manufactures.]

BAVARIA.

GOVERNMENT CONDUCTS ENTERPRISE FOR BENEFIT OF FARMERS.

In his annual report Consul Thomas Willing Peters, of Munich, describes the manner in which state cattle insurance in Bavaria is conducted.

The State receives no profit, the gain or surplus being used to increase the payments of claims. The State grants annual allowances to communities which have suffered severely from losses. Only local farmers' societies, organized according to certain rules, can enter the insurance, and single persons can not become members.

The taxing of losses is done by farmers who attend to this work after being sworn, without pay. In 1909 the Bavarian State cattle insurance was composed of 1,889 local societies with 85,117 members and 329,774 animals insured. The amount of insurance in force was $20,331,159. There have been 12,550 claims paid, amounting to $571,360. The sale of the animals on which insurance had been paid realized $181,004. During 1909, 3.81 per cent of the animals insured had to be paid for by the insurance. The local societies received about $23,800 more than they paid out, and the State contribution amounted to $29,750.

FOREIGN PATENTS.

FRANCE.

COST AND METHOD OF SECURING PROTECTIVE RIGHTS.

Vice-Consul John Preston Beecher, of Havre, in answer to an inquiry regarding patents in France, submits the following:

In view of the many requirements of the French authorities, those desiring to obtain a patent usually make application (as in the United States) through an expert, whose fees are not large and most of whom correspond in English. Moreover, if the inventor does not reside in France, it is necessary, in order to comply with the regulations, that he have either a fixed address or an attorney. An agent, correspondent, or representative is a sine qua non. It is not necessary, however, that an article patented in France be manufactured in that country in order to secure protection.

The duration of a French patent is five, ten, or fifteen years, at the option of the inventor, the cost being $96.50, $193, and $289.50, respectively. These amounts are usually paid in installments of $19.30 per annum, in advance. Failure to pay forfeits the patent, though the inventor or owner is accorded three months' grace, with an extra tax. Original documents certifying to the issuance of the patent are delivered without extra charge; copies cost $4.82. Designs must be made by, or at the expense of, the patentee. [List of patent experts in Paris on file in the Bureau of Manufactures.]

HUNGARY.

COST OF ISSUE AND THE RIGHTS OF PATENTEES.

Vice-Consul-General F. E. Mallett, of Budapest, writes that foreigners may obtain patents in Hungary only through representatives residing in that country, and that patents expire 15 years from date of granting. He adds:

An inventor may have his device patented without having manufactured it prior to the date of application. The owner of a Hungarian patent is required to manufacture or make practical use of his invention in Hungary within three years from the date the patent was granted, and must supply the country's demand for the article invented or improved. Failure to comply with this requirement involves nullification of the patent upon application of any person whomsoever. In the past this section of the law has been liberally interpreted. The only redress enjoyed by the foreign owner of a patent in case of importation and sale in Hungary of the article described in his patent is a suit at law for damages. The cost of obtaining a patent is as follows: Filing fee, $4.06; first year charge, $8.12; application fee, $1.22; inclosures, 6 cents each.

HOME FOR FACTORY GIRLS.

WORK UNDERTAKEN BY INSTITUTION IN AIX LA CHAPELLE.

Consul Pendleton King, of Aix la Chapelle, submits the following report on the factory girls' home and hospital in that German city:

Nearly 40 per cent of the girls working in the factories of this city have their homes in the surrounding villages of Germany, Netherlands, and Belgium, near Aix la Chapelle, but too distant to be reached after a day's work. In 1880 a home and hospital for such girls was established where they can have lodging, assistance, and protection. The institution is owned by a limited stock company and the annual expenses, amounting to about $8,000, are met by fees charged and by endowments. It is a well-managed home, has met with success, and has been of great benefit to the large working population of this city and surrounding villages.

The institution has the following divisions: (1) Lodging, meals, and evening courses in domestic work for factory girls only, with a capacity of 250 beds; (2) a home during week days for female children attending schools in the city or learning a trade in the shops and factories—capacity, 250 children; (3) day boarding school, three courses in cooking, sewing, ironing, and other domestic work—capacity, 50 pupils; (4) home for young women studying to become teachers, 40 pupils; (5) daily evening courses in domestic work—attendance, about 90 pupils; (6) special Sunday courses in working of three months each are given to about 50 pupils—those who do not live in the home pay 25 cents a month; (7) special Sunday courses in dressmaking, shirtmaking, repairing, ironing, and other domestic work, including household bookkeeping, 250 pupils, who pay 15 cents each per month; (8) boarding school for orphan children, 70 pupils; (9) 40 small rooms for invalids or incapacitated factory girls, for-

mer pupils of the institution given preference, their expenses paid partly by benevolent manufacturers and partly by the government old-age insurance.

RULES AND REGULATIONS—COURSES OF INSTRUCTION.

Factory girls seeking admission to the home (division 1) must apply three days in advance and show a certificate from their employer as to occupation and conduct. They must sleep every night in the home on week days, enter the home immediately after leaving work, and not leave until morning, except on Friday to do their shopping. Every girl must attend morning and evening prayers, rise at 6 o'clock in the morning, and obey the sisters of the home. Each girl pays 20 cents a week for her bed, including soap and towel, and must give notice of leaving the home three days in advance. Meals cost as follows: Breakfast, 4 cents; dinner, consisting of soup, vegetables, and meat, 6 cents; supper, 4 cents.

Special evening courses in domestic work, dress and shirt making, darning, ironing, and baking are given free to every girl. There are also special courses given by a physician on hygiene, the prevention of disease, and the nursing of sick or weak children at home. Great care is taken to educate the girls to a sense of strict economy and in the art of cheap and wholesome cooking and the avoidance of waste. All the girls are requested to attend these courses and to teach everything learned to their relatives and neighbors, and the result has been remarkable. Every girl is a member of a savings society and under pledge to set aside a certain sum for deposit in the savings bank of the city; the largest savers receive a premium. There are also prizes of $10 and $25 to the most diligent and those of best behavior, paid out of a legacy (Pelzer stiftung). Advice and assistance are given by traveling sisters to girls about to marry, and an interest is taken in their future welfare, and relief granted in cases of sickness or need after marriage.

HOME FOR ORPHANS AND STUDENTS.

The home for female children (division 2) has about 160 visitors. It is especially for children from the country attending school or learning a trade in the city, who return to their parents on Saturday. They are well cared for during week days. Each child pays 15 cents a day for meals and lodging, and has free admittance to the special courses in household work. The day boarding school (division 3) is free. The pupils stay six to nine months in the home and a situation is then procured for them. Their expenses are paid by the Pelzer legacy, and the pupils number about 50.

In the home for young women studying to become teachers (division 4) the charges for boarding, lodging, heat, and light are $1.50 per week. The aim of the home is to protect young women from the country who return on Saturday to their parents. The boarding school for orphan children (division 8) is for children entirely cared for by the sisters. These children attend the city schools, and the cost for boarding and lodging is 10 to 20 cents a day, according to their means. The expenses of many orphans are paid by charitable institutions or by private persons.

AMERICAN ENTERPRISES IN LEEDS.

SIX AND TWELVE CENT STORE—FACTORY BUILDING.

Consul Benjamin F. Chase, of Leeds, presents the following facts relating to present and prospective American business enterprises at that north of England center:

A large 3d. (6 cents) and 6d. (12 cents) store was opened in Leeds by the American firm of F. W. Woolworth & Co. on March 18, when over 47,000 people inspected the rooms. It is a novelty in this country, where the prospective buyer is not expected to examine the stock. The custom is to expose every variety of article handled in the shop window and the customer is supposed to know what he wants before going into the store and to go in to make a purchase. This is the fifth store opened by Woolworth in the larger towns of England, the first being opened on November 5 last. The interest aroused by the buying public and the crowds constantly visiting it, together with the fact that there are at least a million people who use Leeds as their shopping center—owing to frequent excursions—makes this appear a profitable enterprise from the start. It is believed the people will appreciate the right to enter a store and look around without being pressed to buy and that this enterprise will change the custom of shopkeeping here. The store is centrally located and is large and roomy, with three floors in use. It is run by Americans, two young men being engaged as floor manager and general supervisor.

Another American enterprise here is for the manufacture of sofa beds. Gustavus A. Kaven, of New York, has procured the European patents and rented a four-story factory in Leeds and is fitting it with suitable machinery.

The American Screw Company, of Providence, R. I., erected a large screw factory here about 18 years ago and introduced American hours and methods of labor, but some years later the plant was sold to an English concern and the name changed to the British Screw Company. It still has the American manager and American methods—the pioneer in that line in England—and several American workmen. The only other plant in England with the American hours of labor is at Pudsey. The English method is to begin work at 6 a. m. and take a half hour at 8 or 8.30 a. m. for breakfast, involving a shut down and loss of time in getting under way again.

A great variety of American goods are on sale here, and considerable American machinery is in use in manufacturing plants. Concerns desiring to introduce machinery or other products should send a man with the article to display and demonstrate, or procure a proper representative here and furnish him with it. Simply sending illustrated catalogues and testimonials will bring no result. The Yorkshireman may have his preference for British-made goods and English labor, yet when he can get as good an article for less money or a better article for the same money, the opportunity is not overlooked.

As the acknowledged manufacturing center of the north of England, Leeds, is a suitable place for establishing new enterprises, for which there is no difficulty in securing a suitable location for factory or store. It has good railroad connections and heavier freight can be brought by canal at 10 per cent less than railroad freight rates. All freights are very high, however.

PARCELS TRANSPORTATION.

RUSSIA.

HOW SMALL PACKAGES MAY BE SENT FROM UNITED STATES.

An American manufacturer of fountain pens submits to Consul-General John H. Snodgrass, of Moscow, nine questions bearing on the parcel-post system in Russia, to which he replies:

The safest and cheapest way to send fountain pens, or any articles of value not too bulky, is by parcels post, and it is advisable to declare and insure the value of the same. While there is no parcel-post agreement between the United States and Russia, articles may be forwarded through an American express company which arranges for transfers at English or German ports, and they are delivered in order by the postal authorities in this country with reasonable certainty.

While this office can not quote the rates for carrying packages from the United States to Russia, the following figures are given as representing the charges from Russia to the United States: Up to 2 pounds 14 ounces (a Russian pound is one-tenth less than the American pound), 58 cents; up to 7 pounds 10 ounces, 75 cents; up to 12 pounds 6 ounces, 94 cents. Insurance costs 16 cents for $57.94 in value. Post parcels must be packed in wooden boxes. Post parcels not exceeding the value of $100 must be accompanied by a declaration in French; if valued at $100 or more a consular invoice is required. These regulations exist in Russia; those of the United States may be obtained from the Bureau of Manufactures at Washington.

All post parcels entering Russia must be accompanied by a declaration stating the character of the goods, value, net and gross weights. The declared value is not verified by the Russian authorities; if, however, the declared kind, gross and net weights, do not correspond with the actual contents of the parcel, a penalty in the form of the double customs duty is charged on the articles found in the package.

The inquirer asks: "When sending by registered mail or registered letter post, is it necessary to make any declaration on the outside of parcel stating what the package contains, as on parcels-post packages?" In reply it may be stated that only samples without value can be sent by letter post. If it is found that the envelope contains manufactured articles only the ordinary duty is collected, no fine being imposed, as it is not considered smuggling. If a fountain pen or any other manufactured article from America is returned for repair, or other reasons, it is subject upon reentry to the original duty. This applies jointly to goods sent either by parcels post or registered letter.

An advertising campaign properly carried on in Russia is said to be profitable, but somewhat expensive, as electrotypes are subject to an import duty of $12.10 per 36 pounds. However, printed matter, not bound, except Russian editions, is admitted free. Posters are dutiable, depending upon the material used.

Fountain pens are dutiable as stationery supplies at only 26 cents per pound. If the pens were to be imported separately, the duty on the golden ware would be charged at the rate of $13.80 per 36 pounds. Heretofore pens have been imported with the holders for the reason that they would not come up to the prescribed standard of 56 per cent of pure gold.

ENGLAND.

PROMPT DELIVERY OF LIGHT MERCHANDISE BY PASSENGER TRAINS.

Consul Horace Lee Washington, of Liverpool, having been asked by a Wisconsin inquirer for information as to the facilities afforded the British public for rapid and cheap transportation of light merchandise, forwards the following:

The Cheshire Lines Committee was formed for the purpose of enabling three large railway companies (The Midland, The Great Northern, and The Great Central) to gain access to the city of Liverpool, and the following details as to the collection and delivery of parcels on passenger trains and the rates therefor apply to each of the companies named.

Parcels and merchandise for shipment on passenger trains are received at the central office of the Cheshire Lines Committee in Liverpool, and at the various depots throughout the city, also from warehouses, large stores, and certain agencies in the city. The number of the daily collections varies according to the number of parcels usually shipped. The minimum number of collections is two and the maximum eight.

Packages handed over to the company or to any of its collectors are delivered in any part of the country the following day. In many instances, however, delivery is made the same day a package is received. For instance, there is an excellent hourly express-train service between Liverpool and Manchester, and parcels forwarded on these trains up to 6.30 p. m. are delivered in Manchester the same day. Parcels collected before 10.15 a. m. are delivered in Manchester at 11.30 a. m. Parcels collected in Liverpool up to noon are delivered the same day at all places within a radius of from 100 to 150 miles. Packages for London city and district are delivered the following day, but if received before 9 a. m. delivery is made the same day.

The great bulk of the parcels received by the Cheshire Lines Committee arrive by the fast mail trains at 4, 5, and 6 a. m. They are immediately sorted, and delivery in the city is made before noon.

RATES FOR TRANSPORTATION.

The scale of charges varies with the weight of parcels and the distances. For ordinary parcels up to 2 pounds' weight the rate for any distance within England and Wales or to Irish ports and to interior stations in Ireland with which through booking arrangements exist, is 8 cents; 3-pound packages pay 10 cents; 4-pound, 12 cents; while greater weights, up to 25 pounds, preserve the same rate of 12 cents for the first 30 miles, the charge increases beyond this with increasing weight or distance, the latter being in zones up to 30 miles, 30 to 50 miles, 50 to 100 miles, and above 100 miles, respectively. For 112 pounds anywhere within the first zone the charge is 56 cents, $1.13 to points in second zone, $1.70 for third zone, and $2.27 for the fourth. For weights above 112 pounds the additional charge for each pound is 0.5 cent, 1 cent, 1.5 cents, and 2 cents, respectively. Perishable and certain other articles in a published list enjoy somewhat lower rates in general when sent at the owner's

risk. Certain very fragile articles are carried only at owner's risk and are charged 25 per cent more than ordinary rates. The charges include collection and delivery of parcels where arrangements for this service exists, but outside of the larger cities delivery is within a radius of one-half mile only. Empties are returned at low cost, beginning with 6 cents for weights up to 28 pounds for a distance not exceeding 25 miles, and running up to 112 pounds for a single package or a consignment of several empties not exceeding this weight in the aggregate, for which the charge is 38 cents for distances exceeding 350 miles.

The London and North Western Railway has a service similar to the one just described with substantially the same rates.

[The full schedules for this service, with details as to classification and conditions under which articles are received, etc., taken from the Cheshire Lines Committee's published rates accompanied Consul Washington's report and may be seen in the files of the Bureau of Manufactures.]

MEXICO.

HANDLING ORDERS—LOWER RATES FROM EUROPE.

Vice-Consul Richard M. Stadden, of Manzanillo, presents certain features of doing a mail order trade in Mexico:

One firm in the United States claims to have 11,000 customers in Mexico, the greater part of whom are supplied by parcels post. Although this class of trade is now large, it would be more than doubled if mail-order-house catalogues were printed in Spanish. Persons frequently come to have translated parts of catalogues printed in English. They have seen illustrated something of interest, but are unable to understand the foreign language description. Mexicans are greatly influenced by advertising matter; they like new devices, innovations, and all sorts of new articles. Some catalogues have a limited amount of instructions in Spanish as to rates, manner of ordering and remitting, but the principal features are in English, which limits the orders.

In addition to the regular import duties on articles received in this country by parcels post the Mexican postal service collects a charge which is not the same for packages from different countries, it being more on packages from the United States than from any other country.

On packages from England or France the charge is 10 cents Mexican ($0.0498 American currency) per package.

On packages from Germany the charge is 5 cents Mexican ($0.0249 American currency) per package.

On packages from the United States the charge is according to the weight of the package, being 5 cents Mexican (equal to $0.0249 American currency) per pound, and 1 cent Mexican currency ($0.00498 American currency) for each additional four ounces. The result is that a maximum weight (11 pounds) parcels-post package from the United States has a Mexican postal charge on it of 45 cents Mexican currency, when the same from England or France would be 10

cents, and if from Germany only 5 cents. This difference often causes parties to send orders to Europe instead of to the United States.

PARCELS POST ARRANGED WITH ITALY.

The following Mexican press announcement concerning a parcels-post convention with Italy appeared on March 30:

Parcels-post arrangements were signed yesterday between Mexico and Italy. Minister Mariscal and Secretary Gamboa signing for Mexico and Count Raybaudi Massiglia, the Italian minister, represented Italy.

NATIONAL FINANCES.

RUSSIA.

ESTIMATES OF RECEIPTS AND EXPENDITURES FOR THIS YEAR.

Writing from St. Petersburg on the subject of the Russian budget for 1910, Ambassador W. W. Rockhill makes the following explanatory memoranda:

The last clauses of the budget passed the Douma on April 18. The ordinary revenue is estimated at $1,322,295,200 and the extraordinary at $5,986,558. The ordinary expenditures are estimated at $1,265,724,330 and the extraordinary at $60,086,988. The Douma approved the commission's recommendation that the balance of $2,470,440 be devoted to payment on national debt. It adopted, also, the proposal of the president of the commission to constitute a permanent committee which should endeavor to effect compromise in difference between the Douma and the Council of Empire. This should tend to facilitate the action of the latter.

It is a matter of general congratulation in the press that for the first time since the war the receipts of the Empire exceed the Douma's estimate of its necessary expenditures. While this is largely due to favorable crop conditions, it points also to better conditions generally, notably those of labor, to a more economic administration, and beneath all, to a growing confidence that the period of unrest is passing.

The budget now goes before the Council of Empire, which will doubtless make further changes, presumably increasing the naval allowance. It is announced that the various commissions of the council will restore the sums deducted from the estimates and add sufficient credits to turn the balance into a deficit of $5,655,000.

In the debate on military schools it was brought out that the education of each Russian officer costs the Empire $1,330, compared with the German average of $875 and the Austrian average of $1,333. The estimate for the commissary department is reduced from $178,407,315 to $175,196,375 and that of the department of engineering (which, as referred by the commission, was already greater by about $3,000,000 than that of last year) is further increased by $3,914,061. Special credits are also added to the estimates for the general staff, and for the maintenance of Cossack troops.

A credit is assigned for aviation of $996,440, which includes a sum for dirigibles. The commission recommended that private initiative in this line should be encouraged and that material assistance should be rendered to societies and associations having for their object the development of the aeroplane. The war office informed the Douma that it was studying the question of foreign materials with a view

to the construction of air ships in Russia, that an aeronautical detachment had been selected and was now receiving special training, that a series of tests of dirigibles would take place during this spring in St. Petersburg, and that air ships would be attached thereafter to various military garrisons throughout the Empire.

For the navy the budget commission had specified $50,194,621, or almost $3,600,000 more than last year's allowance. The amount was reduced to $41,813,152. In the consideration of all the department budgets, save that of the navy, the tendency toward careful scrutiny and retrenchment was everywhere noticeable.

MODIFICATIONS OF THE BUDGET.

Chargé d'Affaires Post Wheeler later reports that the budget of the Empire for 1910 received the approval of the Emperor on April 27, with amendments as follows:

From the Douma it went to the Council of Empire, which restored the naval credits which the Douma had stricken off, including the provision of $7,337,000 for the construction of war vessels. The budget commission of the council, however, estimated the ordinary revenues of the Empire at a higher figure than the Douma commission. It was able to take into account also a probable $5,000,000 revenue from sugar, due to the operation of the modifications in the laws governing the sugar industry recently proposed by the Douma. The report of the South Eastern Railway, moreover, which is a private system, but is subsidized by the State, has been issued since the Douma's consideration of the budget, and as it shows a better balance than was expected, an extra revenue of $1,000,000 is estimated from this source.

As originally submitted by the Minister of Finance the budget showed a deficit of some $24,000,000, which it was thought must be covered by an interior loan. The extra revenue, however, from the items named, amounting to over $12,300,000, makes this unnecessary, since it provides for the restored credits and also for a surplus of little less than that estimated by the Douma.

The budget as approved shows a surplus of $2,500,000, which, according to the recommendation of the Douma commission, will be employed in the payment of the national debt.

GERMANY.

BOTH CITY AND PEOPLE FIND A GREATER INCOME NECESSARY.

Consul-General Richard Guenther calls attention to the higher cost of conducting the municipal affairs and of household expenses in the Prussian city of Frankfort-on-the-Main:

Frankfort's municipal budget for next fiscal year provides for more revenue by means of higher taxation or the issue of a new loan to raise money, as the receipts for the last year fell short of the expenditures by $1,238,000. Aside from making up for this deficit the new budget must provide increased sums for necessary coming expenditures for public works and the enhanced cost of municipal administration. Among these the increased pay ($392,700) voted to the city police and employees forms a considerable item.

Household expenses—food, fuel, house rent, etc.—and the general cost of living have increased greatly during the last 20 years. Within

that period Frankfort has more than doubled in size and population. Formerly, however, Frankfort had a large foreign colony among its resident population. Many American families settled here or took residence for purposes of recuperation and education for their children. But for the last 10 years there have been hardly any accessions to the ranks of the foreign residents here, while many, notably Americans, have died off or left.

FRANCE.

COMPARISON OF CONDITIONS WITH OTHER COUNTRIES.

Consul-General A. Gaulin, of Marseilles, forwards a résumé of a paper on "succession statistics" read at a recent meeting of the French Academy of Moral and Political Sciences, from which the following facts are taken:

About 75 per cent of the men and women in France 50 years old are property owners. For persons under 40 years the proportion is not so large. As a general average, every individual in France over 40 years old possesses $2,239, or double that amount for a married couple. Among the ten countries with which statistical comparisons on this subject may be established only the Netherlands and England furnish higher figures. In Austria the average is only $757; Spain, $741; Italy, $691; Roumania, $291.

The wealth of France, however, which had constantly increased since the statistical records exist (1826), has declined since about 1895. Austria and Roumania have steadily grown wealthier. The number of successions valued at more than 2,500 francs ($482) per 1,000 of persons over 40 years of age is 364 in France, 218 in the Netherlands, 186 in England, 130 in Italy, and 72 in Roumania. These figures show that wealth is most evenly distributed in France.

In France the average value of the personal property is about equal, and even slightly in excess of, the real property held by persons over 40 years of age. The real property is classified into city and rural property, the former being valued at $657 and the latter at $605. The average value of stocks held in France is $870, including $219 foreign shares and bonds. The rural property in England averages $278, and city real estate $677, while personal estates average $2,906.

Stocks also constitute the greater part of the wealth of the Netherlands, averaging in value $2,147 for each person over 40 years of age, while real property figures for only $1,089. Foreign stocks play an important part in this country, being valued at $655, or three times more than in France. On the other hand, Italy possesses very few stocks, $91, the remainder of its personal property averaging $155, rural real estate, $145, and other real estate $77.

FORMOSA.

A NEW CITY BUILT SINCE THE JAPANESE OCCUPATION.

The following information concerning Taihoku, the capital of Formosa, is furnished by Consul S. C. Reat, of Tamsui:

The Japanese feel that in Taihoku they have fashioned and constructed a capital city for their island that far surpasses, in architectural elegance, the majority of the cities of the Far East. Even

Tokyo has, it appears, few government buildings more imposing than the new Taihoku building of the Department of Public Works. The old walls have been removed, only the four gates being left standing to tell of half-forgotten days. Narrow, irregular streets have given way to wide, straight, and well-paved avenues. Drainage is now a special department, and sanitation is an applied science. The mountain streams are drawn upon for the hydro-electric power that provides the city with an excellent service. From the mountains also comes the supply of good, pure water, pumped into the city from a station 3 miles distant. Both of these plants are equipped with American machinery.

The new government buildings, numbering about 20, show solidarity and compactness in their construction, and the large expenditure, amounting to $2,867,495, was justified on the theory that the buildings were for the future. The Sotokufu (government offices) now occupies an old Chinese structure, which was the municipal office of Taipeh (Taihoku) when this city was only a prefectural seat, under the Chinese régime, but within the next five years a new building for the Government, to cost $1,245,000 gold, will be erected.

Taihoku is in the northern part of the island, in the valley of the Tamsui River, 18 miles south from Keelung, its seaport. Taihoku is composed of the three towns of Jonai (the city proper and formerly a walled town), Daitotei (Tamsui), where the American consulate is located, and Manka, and has a population of 87,767, viz, Chinese, 61,470; Japanese, 26,273; Europeans, 14; and Americans, 10.

LEGISLATIVE MEASURES.

ENGLAND.

INSURANCE POLICIES REGULATED—VARIOUS PUBLIC MEASURES.

As to legislation in Great Britain affecting the commercial and financial world enacted during the past year, Consul-General John L. Griffiths, of London, says there were several important measures affecting business interests:

The Assurance Companies Act was the most vital law passed in reference to public companies. It is both a consolidating and amending statute. It extends to all insurance companies provisions of former acts which theretofore applied to life insurance companies only, such as, for example, the requirement that new insurance companies shall make a deposit of $97,333 with the Paymaster-General. The greater portion of the act does not come into operation until July 1, 1910. One section, which took effect from the date of the passage of the act, December 3, 1909, relates to collecting societies and industrial assurance companies. It validates policies insuring funeral expenses of parent, grand-parent, child, brother, or sister. It also legalizes policies taken out on the life of another in whose life the insurer had no apparent interest, provided the policy was effected by or on account of a person who had at the time a bona fide expectation that he would incur expense in connection with the death or funeral of the insured, and if the sum assured is not unreasonable for the purpose of covering these expenses.

A drastic marine-insurance act was passed prohibiting gambling on loss by maritime perils. It is principally directed against the em-

ployees of shipowners who, it appears, have trafficked more or less in this sort of insurance. The act makes void a marine-insurance policy taken out by anyone who has no bona fide interest in the safe arrival of a ship or the safety of the subject-matter insured, or bona fide expectation of acquiring such interest, and a contract of marine insurance taken out by any person in the employment of a shipowner, not being part owner. Such a policy is declared by the act to be a gambling policy, and renders the person effecting it liable to six months' imprisonment or a fine of $486, and forfeiture of any money received on the policy. The broker or other person through whom such a policy is effected is subject to the same penalties.

TOWN-PLANNING ACT—ELECTRIC LIGHTING.

Under the Town-Planning Act powers are given for the compulsory acquisition of land and demolition of property for housing and town-planning schemes, for which purposes local authorities are granted extensive powers for borrowing money. County councils are also empowered to assist cooperative building societies with advances on the security of their property, but such advances are not to exceed two-thirds of its value.

Under the Electric-Lighting Act of 1909 the British Board of Trade may, by provisional order, empower electricity companies, as well as local authorities, already authorized as lighting undertakers, to supply electricity either within or without their district, and to acquire land, compulsorily if necessary, for the purpose of generating stations; also to break up any street, railway, or tramway outside their area to enable electricity to be brought within that area; and such companies may also, on certain conditions, be empowered to supply electricity in bulk compulsorily. The consent of the local authority (when not itself the undertaker) is required for such provisional order, and in all cases persons objecting thereto are to be heard. The Board of Trade may require applicants to proceed by private bill instead of provisional order, but in such cases the applications and notices are to be treated as petitions for a private bill. Powers of purchase are reserved to local authorities, and, with the consent of the undertaking company, one local authority may transfer such powers to another.

TRADE-BOARDS ACT—MATCH REGULATIONS.

The Board of Trade was empowered to establish boards in scheduled trades for fixing a minimum rate of wages. It came into operation on January 1, 1910, and affected a number of wholesale trades. The act is intended to prevent what is known as "sweating," and the only trades at present falling under its provisions are the ready-made and wholesale "bespoke" tailoring and its branches; paper, cardboard, and chip-box making; machine-made lace and net finishing and mending; and hammered and dollied or tommied chain making. Power is given to the Board of Trade to make provisional orders, subject to confirmation by Parliament, including other trades within the provisions of the act.

The act which was passed in 1908 prohibiting the manufacture, sale, and importation of matches made with white phosphorus came into operation, as regards the wholesale trade, on January 1, 1910, but in the retail trade it does not take effect until January 1, 1911.

GERMANY

GOVERNMENT REGULATIONS FOR CONTROL OF IMPORTANT INDUSTRY.

Consul-General Robert P. Skinner, of Hamburg, says that the new German potash law has been awaited with great anxiety on both sides of the Atlantic. In forwarding a copy of it to the Bureau of Manufactures he comments:

Official promulgation only is necessary for the law to become effective, and its promulgation is expected to follow shortly. The purposes sought in this legislation, which affects important American interests, are twofold—the organization of the mining industry to certain profits, and the conservation of a great source of national riches. To Americans the most startling portion of this law will be the opening line, reading:

> The owners of potash works are allowed to sell potash salts only in accordance with the provisions of this act.

This means the absolute control by law of an industry in which various German governments and both German and American corporations are interested. An extremely difficult point in drafting the bill was the reconciliation of an arbitrary level of prices and apportionment of production with the conditions existing because of unfilled contracts. The difficulty has been solved by providing that all contracts made prior to April 17, 1910, are exempted from the effects of the law, and the further provision that where an increase of production beyond the allotment figure is necessary for the fulfillment of contracts made prior to December 17, 1909, such increase may be permitted without the payment of a penalty tax.

While the Government in this law refrains from taking over the potash industry as a whole for its own account, the production and sale are monopolized just as surely by the limitations which the law lays down. It is still too early to anticipate the precise effect of this legislation upon the cost of American fertilizing materials, and there are probably many questions of interpretation which will require time before settlement can be reached. [The translation of the law is filed for public reference with the Bureau of Manufactures.]

SWITZERLAND.

PETITION FOR PROPORTIONAL ELECTIONS ADVERSELY REPORTED ON.

In transmitting information concerning a proposed amendment of the Swiss constitution in regard to the election of national legislators, Consul George Heimrod, of Berne, says:

An initiative petition, similar to one rejected in 1900, signed by 142,507 voters, was recently presented to the Swiss Nationalrath, or House of Representatives, calling for an amendment to the constitution, replacing the present system of electing members to that body—one representative for each 20,000 population—by the proportional system, each canton and half canton to represent a district. The petition was recommended by the Federal Council for rejection, for a number of reasons, among which were the following: All systems of proportional representation have proved deficient, artificial, and defective; the freedom of the elector is lost thereby, for his vote, if it is to be of value, must be cast for the entire list of one political

party, otherwise his party is weakened; the proportional systems are more or less complicated, and not clear to the masses; the present system secures a majority as the necessary basis for parliamentary and executive action, without excluding representatives of the minority parties, which have always been represented in the Nationalrath, etc. It is expected that the amendment will be placed before the people during the current year.

MOVING PICTURES.

GERMANY.

STIRRING AMERICAN FILMS NOT POPULAR—CURRENT PRICES.

Comparatively few American moving-picture films are shown in Hamburg, Consul-General Robert P. Skinner stating that local managers think the German public prefers travel pictures and quieter action to the exciting incidents of American life commonly submitted. Mr. Skinner discusses the film trade and the business in general:

The moving-picture shows of Hamburg are not managed as in the United States. In the best places here the highest admission price is 1 mark ($0.238) and the lowest 40 pfennigs ($0.095). Tickets are stamped with the hour of arrival, and between series notices are displayed on the canvas that certain time tickets have expired and that supplementary tickets may be purchased from ushers without going outside. Ushers pass through the audience and see that persons holding expired tickets do not remain. The same picture is never repeated in an evening. The usual length of one admission is two hours. Excellent music is furnished by small orchestras, and in some larger theaters there are brass bands. Smoking is prohibited and beer is not served in the better-class places, but at some of the popular theaters both smoking and drinking are permitted.

The films exhibited in Hamburg are rented from central agencies at a cost of about 2½ cents a foot for the first week and less for longer periods, though films not new to the public can be had for as low as 1⅛ cents. [A list of the moving-picture theaters in Hamburg and of German film agencies may be obtained from the Bureau of Manufactures.]

OMAN.

GREAT SUCCESS OF THIS CLASS OF ENTERTAINMENTS.

Consul John A. Ray, of Maskat, capital of the Arabian sultanate of Oman, reports as follows concerning the growing taste for moving-picture shows in the Middle East:

An American has been giving moving-picture shows at Maskat during March and meeting with great success. He opened a hall and gave public exhibitions for several nights. The prices of seats were 65, 33, and 16 cents. Private entertainments were given in the Sultan's palace and in the houses of some of the wealthier residents. In one case the showman received $260 for an entertainment, and he reports that he received nowhere less than $50.

The same man has been in the Middle East for more than a year, entering Turkey at Aleppo and coming to the Persian Gulf by way of Bagdad. He has given shows at Mohammerah, Bassorah, and Bushire. He left Maskat for Aden. Success seems to have crowned his efforts everywhere, as the Arabs are very fond of such entertainments, and the wealthier sheiks quite generous.

The machine used was of French manufacture and so were most of the films. The subjects were largely Turkish, with scenes from the Arabian Nights. The greatest difficulty the operator had found was in obtaining a supply of new films and of chemicals. Films had to be purchased outright and chemicals imported from India. The chemicals were needed for the lime light, as electricity is unobtainable.

It is a question of only a short time until every important town in the Middle East has a moving picture theater. At present France has practically a monopoly of the business of furnishing films, but there seems to be no reason why American manufacturers might not share in the business.

WIRELESS TELEGRAPHY.

PACIFIC ISLANDS.

AUSTRALASIAN PLANS FOR CONNECTING DISTANT ISLANDS.

Other plans for linking the islands of the Pacific by wireless telegraphy having failed to develop, Consul Julius D. Dreher, of Tahiti, makes the following report on the British colonial project:

The governments of Australia and New Zealand have decided to establish a system of wireless telegraphy which will be under their control and which will embrace various groups of British islands, including Ocean, of the Gilbert group, where the Pacific Phosphate Company, of London, owns immense deposits of high-grade phosphates. The installation of that system may put an end to the plans of the Pacific Radio-Telegraph Company, and if so, Tahiti will have to look elsewhere for a connection with the telegraphic systems of the world. Such a connection could be made with the station of the United Wireless Company, of San Francisco, at Honolulu. Some successful experiments have already been made at Tahiti in receiving messages from the American Steamship Mariposa.

GERMANY.

WIRELESS TELEGRAPHY ON GERMAN SHIPS.

Consul-General Richard Guenther, of Frankfort, says that the German shipping lines recognize the value of keeping up communication at sea by wireless telegraphy. The North German Lloyd has just ordered the installation of the Telefunken system on 15 of its steamships on the Eastern Asia and Australian lines; the Hamburg-American Steamship Company is providing the wireless telegraph apparatus for four of its great steamers running to Mexico and Brazil; the Hansa Steamship Company, of Bremen, will equip its new vessels, which will be put on the East India route, and the Roland and the Kosmos lines have equipped their steamships to South-American ports with Telefunken stations.

WIRELESS IN GERMAN FISHERIES.

ADVANCE MARKET ARRANGEMENTS AND TRANSMISSION OF NEWS.

Consul-General Robert P. Skinner, writing from Hamburg, describes the use of wireless telegraphy among German fishing vessels:

Three Cuxhaven steam trawlers are now equipped with apparatus, and the service is so satisfactory that efforts are being made to increase it. The most marked advantages resulting from the use of the wireless telegraph in this business are the ability of captains to advise with each other at sea as to their respective catches, and the transmission of similar reports to Cuxhaven a number of hours before the return of the ships to port. Thus vessels of the same fleet which have found poor fishing are sometimes able to join other vessels more fortunately located, in time to return with good catches. All the vessels are then able to inform the managers of the public markets respecting the quantities of fish to be placed on sale, in such manner that in the event of unusual catches arrangements can be made in advance for distributing supplies in the least possible time. The receipt and transmission of hydrographic intelligence and reporting of breakdowns in engines, or other accidents of navigation are also features of importance.

BRAZIL.

AMERICAN CONTRACTORS WILL OPERATE SYSTEM ON LLOYD BRAZILEIRO.

Consul-General George E. Anderson, of Rio de Janeiro, advises that a contract has been signed between the Lloyd Brazileiro, the subsidized line of steamships serving Brazilian ports and maintaining a service between Brazilian ports and New York, and the United Wireless Telegraph Company, of New York, for a wireless telegraph system upon 21 ships of the Lloyd line and 8 stations along the Brazilian coast.

The service is primarily for the Lloyd Brazileiro, of which the Government of Brazil now owns two-thirds of the stock. It is understood that the wireless telegraph service will also be open to the public. One land station is to be at Rio Grande do Sul, one at Santos, three in and near Rio de Janeiro, one at Bahia, one at Pernambuco, and one at Para. The system will afford communication between Rio de Janeiro and all the Lloyd fleet all the time, except the New York service when ships are out of range.

The Brazilian Government let a contract about a year ago for a wireless system from the island of Fernando Noronha and Pernambuco and Rio de Janeiro, which is not operated. The American contractors will install and operate the Lloyd system under the direction of the Lloyd, but along modern American methods.

Most of the passenger ships between Europe and South America and two ships running between New York and the eastern coast of South America are already equipped with wireless apparatus, and the proposed system will give a wireless service in the South Atlantic similar to that in the North Atlantic.

PUBLIC CONVENIENCES.

ENGLAND.

THEIR NUMBER AND DESCRIPTION IN THE CITY OF WESTMINSTER.

In answer to an inquiry made by an Eastern city improvement society, Deputy Consul-General Carl R. Loop furnishes the following information concerning public conveniences in London:

Greater London comprises a number of "cities and boroughs." With respect to public conveniences perhaps the city of Westminster is the most representative, and the following is a letter received from its town clerk:

The accommodation is of two kinds, viz: (a) Underground public conveniences for men and for women, of which there are 17 in Westminster, the majority situate in busy streets; and (b) above-ground urinals for men, of which there are 40. The underground public conveniences are mostly constructed under the streets, or under the public parks adjacent to and with means of access direct from the streets. They contain urinals, water-closets, and lavatory accommodation. In the case of one of these underground conveniences there is also a dressing room, which can be hired on payment of a small fee. A charge of 1 penny (2 cents) is made (by means of penny-in-the-slot locks) for the use of the water-closets, and 2d. (4 cents) for the use of the lavatories. I give particulars of the accommodation, the average cost of maintenance and working during the five years ended March 31, 1909, and the average receipts during the same period in the case of two of the principal conveniences, those at Marble Arch (Hyde Park) and at Piccadilly Circus:

Convenience.	Accommodation.		Average annual cost of maintenance and working.	Average annual receipts.
	Men.	Women.		
Marble Arch	24 water-closets..... 12 lavatory basins... 72 urinals.....	10 water-closets..... 4 lavatory basins.....	$3,946	$6,161
Piccadilly Circus	14 water-closets..... 10 lavatory basins... 20 urinals.....	6 water-closets..... 5 lavatory basins.....	4,618	9,781

The underground conveniences are opened at 7.30 a. m. on week days and at 9 a. m. on Sundays; most of the men's conveniences are kept open till 1 a. m., and most of the women's conveniences till midnight. There is an attendant always in charge at each underground convenience, and at the larger conveniences two attendants.

AUSTRIA.

THEIR CONSTRUCTION, MANAGEMENT, AND MAINTENANCE.

In answer to an inquiry, Vice-Consul-General R. W. Heingartner furnishes the following information concerning public-convenience stations in Vienna:

The number of public sanitaries or convenience stations in Vienna is 77, of which 74 are above-ground, containing 564 water-closets, of which 136 first-class and 148 second-class are for women, and 136 first-class and 144 second-class for men. Besides these 77 stations there are 128 urinal stations for men, built at a cost of $121 each.

The privilege of erecting all conveniences was granted to a single firm in 1883, the contract running to January 1, 1940, and their building, management, and maintenance are carried on by the firm, in return for which it can prohibit the erection of stations by others

within 1,666 feet of any of its own stations. The firm charges 2 cents for the use of a first-class closet, with washstand, and 1½ cents for a second-class closet, without washstand. The city pays it a yearly subvention of $16 for each urinal in these stations.

The cost of building an over-ground station averages $3,200, and of an underground station $16,000. The cost of management and maintenance of an over-ground station is about $600 per annum, and of an underground station double that amount.

BRITISH CHAMBERS OF COMMERCE.

SUBJECTS DEBATED AND ACTED UPON AT ANNUAL MEETING.

Consul-General John L. Griffiths, of London, reports as follows on the proceedings of the meeting of the Association of the Chambers of Commerce of the United Kingdom held in London in March:

The president congratulated the association upon the fact that five-sixths of the labor in Great Britain was employed in production for the home demand; that in the manufactures of every class of article, except silk goods, British exports greatly exceeded the imports; that in the recent movement of trade there was nothing to warrant pessimism, as the British nation still retained a commanding leadership in so many staple industries. He laid stress upon better technical training as one of the methods for improving trade, and cited the locomotive industry as an instance where more important developments would have taken place if, as in the United States, the railway companies had relied upon private builders instead of setting up, at a great cost and on a large scale, important works of their own.

A resolution was adopted favoring the establishment of an Imperial Council of Commerce in which should sit representatives of all the chambers of commerce in the British Empire, in proportion to the over-sea trade of the different colonies and dependencies, and that it would be advisable, if possible, to include in such a council the representatives of British chambers of commerce in foreign countries.

An interesting discussion arose in reference to the British consular service, and a resolution was submitted which was adopted urging that British interests abroad should be represented wherever practicable by persons of British nationality only, and that such should be especially the case at the principal foreign ports.

The establishment of a train ferry system across the English Channel was advocated, and a resolution urging the Government to insure the early adaptation of such a system was carried.

Hearty approval was also expressed in favor of the international exchange of students in the belief that through this means a better understanding would be arrived at between England and other countries, and that there would be a decided improvement of commercial relationships.

A resolution urging that a decimal system of coinage should be made compulsory was carried by a small majority of votes. In support of this resolution one of the speakers urged that the adding machine, which had lately come into use in the United States and on the Continent, was useless here, because it could not be made applicable to the currency of this country.

THEATERS IN AUSTRIA.

PROPOSED LAW REGULATING THEIR CONSTRUCTION.

Consul-General Charles Denby, of Vienna, furnishes the following information concerning the proposal of the Landtag of Lower Austria for the modification of existing laws governing the construction of theaters and large assembly buildings:

In consequence of the great Ring Theater fire in Vienna in 1880, a law was enacted in 1882 which was intended to prevent such disasters in the future. This law, in addition to provisions for seating, lighting, etc., had a stringent provision that all buildings used for public assemblies should open on a street on each of its four sides, and all new theaters in Vienna have been built in accordance with this provision.

The safety of an audience emerging from such a building is of course thoroughly assured, and the conspicuous position of a building standing thus by itself has added much to the beauty of the city; but the isolation of buildings for public entertainments has become unnecessarily burdensome, and the law now proposed is designed to alleviate this hardship. In general, this law waives the requirement that buildings for theaters, etc., shall open on all four sides, on the ground that experience and modern architectural progress enable such protection of audiences as to make this requirement unnecessary. The law provides with great detail as to the overhanging of galleries, the slope of floors, the number of doors of exit, which are to depend on the number of rows of seats they serve—one exit on each side for every six rows—floor space for standing room, etc. It further provides for the use of electric lighting exclusively, abolishing the emergency candles, now a noticeable feature of theaters here. The tiers of boxes, rising from the orchestra floor to the number of four and five, are limited by the new law to three.

THE TELEPHONE IN TURKEY.

CONCESSION GRANTED TO AN AMERICAN-FRENCH-BRITISH SYNDICATE.

Mr. Henry L. Janes, Secretary of the American embassy at Constantinople, furnishes the following information concerning the telephone concession recently granted by the Turkish Government:

The syndicate is composed of the Western Electric Company, New York, the French Thomson-Houston Company, Paris, the directors of the National Telephone Company, London, and the British Insulated and Helsby Cables Company (Limited), London.

The concession is for the exclusive operation of telephones in Constantinople and environs, and is to run for 30 years from the date of its confirmation by an irade. The construction may be done by the syndicate, but the operation must be conducted by a Turkish company, the syndicate being the stockholders. The Government is to have the right to purchase the concession and plant, after 10 years, upon a valuation placed thereon by appraisers, whose mode of selection is set forth in the contract.

Although the Council of Ministers has approved the concession, it is held in abeyance until submitted to Parliament for approval.

PATENT MEDICINES IN RUSSIA.

NEW REGULATIONS GOVERNING THEIR ADMISSION.

Consul John H. Grout, of Odessa, forwards the following report on a new order relative to the sale of patent medicines in Russia:

As few medical remedies and preparations are produced in Russia, foreign houses manufacturing such articles regard the market with much interest. There seem to be great possibilities for all kinds of medicines, but much preliminary work is required to gain admittance and a foothold. There is apparently great distrust of all patent medicines of which the exact component parts are not stated on the bottle or other receptacle. Public fears might be allayed if patent medicines were to be accompanied by special certificates from the medical council at St. Petersburg showing that the remedies are safe to use.

Under regulations recently promulgated, dealing with applications for permission to send medicinal substances into Russia, the Ministry of Finance has notified the customs department that such applications will in future be accepted by the medical council for investigation only under the following conditions:

The application of the firm producing the medicinal remedy, or of the firm's legally constituted representative, must be accompanied by a certificate of analysis from some competent laboratory either in Russia or abroad. The certificate must give an exact indication of all component parts of the remedy and also its mode of preparation. Three specimens of the remedy put up and inclosed as it is proposed to introduce it in Russia must be provided. All printed matter and documents, if in a foreign language, must be accompanied by officially attested translations of the same into Russian. Upon all documents and papers connected with the application for permission to import medicinal preparations into Russia the usual stamp duty of 75 kopecks (37½ cents) per sheet must be paid.

Applications received at customs-houses to be submitted to the medical council will receive no attention unless conforming to the above directions.

SWISS NATIONAL PARK.

GOVERNMENT AND PEOPLE TO WORK CONJOINTLY FOR ITS ESTABLISHMENT.

Consul-General R. E. Mansfield, of Zurich, says that the establishment of a national park in Switzerland on the plan of the Yellowstone National Park in the United States, which has been agitated by patriotic Swiss citizens, societies, and newspapers, is proving effective.

The proposal has been indorsed by the Government, and a definite plan of action adopted, which promises to result in the acquisition of a large and suitable tract of territory in one of the most picturesque and attractive parts of Switzerland for park purposes. After numerous investigations and journeys to different localities and the consideration of various propositions it has been decided to acquire a large tract of land in the most secluded section of the Grisons, including the Chuoza Valley, in the heart of the Engadine, where nature is still in primitive state. The site selected is at the foot of the Piz Quatervals, on the border of Italy, and is admirably suited for park purposes, being rich in rare botanical and geological specimens, and situated in a high altitude, with a healthful climate, and in the midst of beautiful and romantic scenery in a country famous for its mountain views and rich in legend and historic lore.

HOUSE SCARCITY IN SCOTLAND.

ACTIVE BUILDING OPERATIONS AT DUNFERMLINE AND INVERKEITHING.

Consul H. D. Van Sant reports that owing to the building of the Rosyth naval base on the Firth of Forth, near Dunfermline, and the employment of some 3,000 men, contractors, and British naval officers, that Scotch city is about to witness a revival in building operations, while houses are at a premium and rents have increased from 20 to 30 per cent.

Every available house in the city is rented or engaged, and unless on time notice it seems impossible to secure a fair-sized dwelling. New houses and streets are in evidence in different parts of the city, while a model settlement of 800 houses is projected. Building is also active at Inverkeithing, and in every section of the city and suburbs the house famine is felt with special severity. Overcrowding in Dunfermline among tenants and lodgers is more marked, it is claimed, than ever before in the recent history of the city.

A considerable number of the better-class dwellings are occupied or engaged for contractors, engineers, or naval officers, with more applications from similar sources. The increased rents and extra demand for houses is likely to continue indefinitely as the permanent naval station of the British Government for the North Sea is to be located at Rosyth, on completion of the $75,000,000 naval base.

BRITISH HOME MARKET.

DISTINCTIVE TRADE-MARK PROPOSED FOR ALL-BRITISH GOODS.

Consul-General John L. Griffiths, of London, writes that British manufacturers are forming an association to prevent the sale in the United Kingdom of foreign-made as British goods. The inception of the movement and the plan proposed he describes as follows:

At a recent meeting of British manufacturers it was proposed that an association be formed to register, under the trade-marks act of 1905, a mark which would be the property of the association and which would be used by all members able to satisfy the association that their goods are all British. It was not proposed that articles made of raw material from abroad be excluded from the definition "all British," but that manufactured articles imported and made up by British labor be not protected by the mark.

With the increase of competition there is a manifest tendency on the part of British manufacturers to do everything within their power to preserve the home markets for their products and to enter upon a campaign for the purpose of educating or inducing the British consumer to give preference to home manufactures. It is believed that the association that is about to be formed will have a very large and influential membership and will inaugurate an active movement to accomplish its object.

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NEW SOUTH WALES IMMIGRANTS.

SATISFACTORY RESULTS OF GOVERNMENT ASSISTED PASSAGES.

From recent official returns, concerning assisted immigration into New South Wales, Consul-General John P. Bray, of Sydney, furnishes the following statistics:

The plan of " assisted passages " appears to have given satisfactory results, judging from the figures which cover the period of its operation, four years, during which time the number of immigrants handled by the Bureau of Immigration was 14,009, of which 5,539 were handled in 1909.

The gain through assisted immigration to New South Wales may be seen by the fact that during the four years ending September 30, 1909, the number of immigrants introduced into New South Wales from countries beyond the Commonwealth was 31,751, as compared with 15,712 into all the other States combined. Not only this, but for some years prior to 1906, when the assisted immigrant system went into effect, the State had been steadily losing population to Great Britain; in the four years ending with 1905 this loss amounted to 3,616. It is now confidently expected that the population of New South Wales will be steadily increased by large numbers of desirable immigrants.

FOREIGN TARIFFS.

CUSTOMS DUTIES AND REGULATIONS.

AUSTRALIA.

REQUIREMENTS UNDER QUARANTINE REGULATIONS.

Consul John F. Jewell, of Melbourne, calls the attention of exporters to the importance of observing the regulations under the Australian Quarantine Act of 1908, particularly in so far as they relate to the importation of animals and plants into the Commonwealth. The following are the chief regulations applying to the importation of animals:

Fourteen days' notice of the arrival of the animal shall be given by the importer to the chief quarantine officer of the State.

The master of any vessel on which any animal is being imported from any country, except New Zealand, shall immediately on arrival at the landing port, give notice of arrival to the chief quarantine officer, and shall also forward to him a declaration that no disease affecting animals has occurred during the voyage, or giving particulars as to any disease which has occurred, and also particulars regarding other stock carried on the vessel during the voyage.

The owner or consignor of any imported animal or animal to be imported shall forward with any such animal, to be delivered to the chief quarantine officer prior to the landing of the animal, declarations, certificates, notices, and permits, as follows:

In case of any horse, ass, or mule from the United States of America or Canada:

1. A declaration from the owner certifying (a) that the animal has been free from disease during the six months next preceding shipment; (b) that it has not been in contact with any animal suffering from disease during the six months next preceding shipment; (c) that it has not, otherwise than as required under 3, been tested with mallein during the thirty days next preceding; (d) that it has not been during the twelve months next preceding in any State or Province in which dourine (maladie du coit) or epizootic lymphangitis is declared or known to exist.

2. Certificates from federal and state veterinary surgeons to the effect that dourine (maladie du coit) or epizootic lymphangitis neither is, nor during the twelve months next preceding the shipment of the animal has been, declared or known to exist in the State from which the animal is declared by the owner to have been exported or in which it is declared to have been during the twelve months next preceding shipment.

3. A mallein test certificate by an approved veterinary surgeon. This certificate shall inter alia state the date on which the test was applied.

4. A certificate of general health from an approved veterinary surgeon at port of shipment, who shall also indorse the mallein test certificate to the effect that, after due inquiry, he has no reason to doubt its correctness.

In the case of any cattle from the United Kingdom, United States of America,[a] and Canada:

1. A declaration from the owner certifying (a) That the animal has been free from disease during the six months next preceding shipment; (b) that it has not been in contact with any animal suffering from disease during the six months next preceding shipment; (c) that it has not, otherwise than as required under 2, been tested with tuberculin during the two months next preceding shipment.

2. A tuberculin-test certificate signed by a qualified veterinary surgeon. Such certificate shall inter alia state the date on which the test was applied.

[a] At the time of the publication of the Quarantine Regulations of 1909 the importation of cattle, swine, sheep, and goats from the United States was prohibited, and the regulations quoted above are those which apply to such animals imported from the United Kingdom and Canada. The prohibition was removed by the proclamation of January 18, 1910.

3. A certificate of general health from an approved veterinary surgeon at the port of shipment, who shall also indorse the tuberculin-test certificate to the effect that, after due inquiry, he has no reason to doubt its correctness.

In the case of any swine from New Zealand, the United Kingdom, the United States of America,[a] or Canada:

1. A declaration from the owner certifying (a) that the animal has been free from disease during the six months next preceding shipment; (b) that it has not been in contact with any animal suffering from disease during the six months next preceding shipment.

2. A certificate of its general health from an approved veterinary surgeon at the port of shipment.

In the case of any dog from any country from which dogs are admissible, other than New Zealand:

1. A declaration from the owner certifying (a) that the animal has been free from disease during the six months next preceding shipment; (b) that it has not been in contact with any animal suffering from disease during the six months next preceding shipment.

2. A certificate of its general health from an approved veterinary surgeon at the port of shipment.

In the case of circus or other performing animals of the several kinds permitted to be imported, the declarations, certificates, notices, and permits shall be those required in respect of the same kind of animal generally.

Every imported animal shall be examined by a government veterinary surgeon, who shall certify to its general health.

REGULATIONS FOR NURSERY STOCK, ETC.

The importation of plants is subject to the following regulations:

The master of any vessel in which any plant is imported shall, immediately on his arrival at the landing port of such plant, give notice to the chief quarantine officer regarding any plant he has on board his vessel.

Any person desirous of landing any plant imported shall give notice to the quarantine officer at the port of landing in accordance with the prescribed form. [Copies of the Quarantine Act of 1908, and the regulations under the act, as well as of the various amendments thereto, are on file in the Bureau of Manufactures.]

PROPOSED AMENDMENT TO REGULATIONS UNDER COMMERCE ACT.

According to a notice in the British Board of Trade Journal of May 26, an amendment to the Commerce Regulations, 1910, under the Australian Commerce Act of 1905 (see Weekly Consular and Trade Reports of May 14, 1910, or Tariff Series 17B) is proposed, to take effect September 1 next. The amendment relates to the trade description of medicines and medicinal preparations imported into Australia, and provides for the addition of the following paragraph to clause *f*, section 8, of the Commerce Regulations, 1910:

Clause (*f*) (*a*).—In the case of medicines and medicinal preparations for internal or external use, if the goods contain methylated spirits, the trade description shall include a statement setting out in clear and prominent characters, and in the following form, the percentage of such substance contained in the goods, viz:

This preparation contains (quantity to be stated) per cent by volume of methylated spirit.

AUSTRIA-HUNGARY.

ADMISSION OF AMERICAN PORK.

Advices have been received from the American ambassador at Vienna that the Austro-Hungarian Government has instructed the

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[a] At the time of the publication of the Quarantine Regulations of 1909 the importation of cattle, swine, sheep, and goats from the United States was prohibited, and the regulations quoted above are those which apply to such animals imported from the United Kingdom and Canada. The prohibition was removed by the proclamation of January 18, 1910.

custom houses at Bodenbach-Tetschen, Trieste, and Fiume that on and after May 1 the regular United States inspection certificates shall be accepted and that special certificates of microscopic inspection are no longer necessary. This action is in accordance with the obligation assumed by the Austro-Hungarian Government in return for the grant of the minimum tariff of the United States on imports from Austria-Hungary. It places pork products on the same basis as those of other countries and is in line with the action of Germany and France.

BRAZIL.

COLLECTION OF SURTAX AT PARA TO BE SUSPENDED.

According to a notice in the Brazilian Review of May 17, the collection of the 2 per cent gold surtax on the official valuation of imports into Para is soon to be suspended.

BRITISH GUIANA.

REVISION OF THE CUSTOMS TARIFF.

Under title of the "Customs Duties Ordinance, 1910," a new schedule of import duties has been promulgated in the Official Gazette, of British Guiana, to be in force from March 19, 1910, to March 31, 1911, inclusive. The rates are unchanged for the most part, except that provision is now made for a surtax of 5 per cent of the regular duties on all articles imported. The principal changes in rates of import duty are shown in the following statement, summarized from the British Board of Trade Journal:

[Imperial gallon=1.2003 United States gallons.]

Articles.	Old rate.		New rate.a	
	Dolls.	*cts.*	*Dolls.*	*cts.*
Swine.....per hundred..	2	00	1	00
Oil:				
Gasoline, including naphtha and benzine.....per imperial gallon..	0	25	0	02
Petroleum, refined b.....do....	0	12½	0	12½
Rice.....per 100 pounds..	0	35	0	50

a With an additional charge of 5 per cent on the amount of duty leviable at the rate given.

b It is now provided that the rate of 12½ cents per gallon is only applicable to "refined petroleum, which does not give off an inflammable vapor at a temperature of less than 85 degrees F. when tested in the Abel-Pensky apparatus in the manner laid down in the schedule to the proclamation of 22d December, 1908, under the petroleum ordinance of 1872."

Automobiles, seating not more than four, were previously dutiable at $80 each, with an additional $20 for each seat above four, and oleomargarine was dutiable at 2 cents per pound. These products are not mentioned in the new schedule and, if classed as "unenumerated," are subject to a duty of 12½ per cent ad valorem. Advertising matter of no commercial value has been exempted from duty.

CANADA.

EXTENSION OF INTERMEDIATE TARIFF RATES TO BELGIUM AND NETHERLANDS.

By an order in council published in the Canada Gazette of June 11 the intermediate rates on the articles enumerated in Schedules B

and C of the commercial convention recently concluded between Canada and France (published as Tariff Series No. 6c by the Bureau of Manufactures) are to be applied to imports from Belgium and the Netherlands into Canada. The concessions are to apply only to goods imported without transshipment from the above countries or from a port of a British country into a sea or river port of Canada. The rates enumerated in Schedule C of the Franco-Canadian convention are lower than the intermediate rates on the same articles, and in the case of some wines and pharmaceutical preparations are even below the British preferential rates. Imports from Belgium and the Netherlands comprised under Schedule C will not be entitled, however, to the special rates granted to France and other countries entitled to most-favored-nation treatment, but will be subject to the intermediate rates. Imports from the United States into Canada are subject to the general rates of duty.

PROVISIONAL COMMERCIAL AGREEMENT WITH ITALY.

By the terms of the provisional commercial agreement between Italy and Canada, with effect from June 10, certain Italian products, imported without transshipment from an Italian port or a port of a British country into a sea or river port of Canada, are to be admitted at the intermediate rates of duty. Among the articles affected are Italian pastes, canned vegetables, lime and other fruit juices, wines, castile soap, pomades and flower odors, essential oils, lace and embroideries of cotton and linen, dress goods, church vestments, velvets, plushes and silk fabrics, ribbons of all kinds, manufactures of silk, musical instruments, bead ornaments, and fine kid gloves. All these articles are included in the Franco-Canadian convention. In return for the above concessions the Italian Government has granted the conventional rates of the Italian customs tariff on the following articles, the produce or manufacture of Canada, imported into Italy: Condensed milk, carbide of calcium, wood, various manufactures of wood, including furniture, wood pulp, paper and pasteboard, fur muffs, leather and rubber footwear, iron and steel tools, and machine tools, sewing machines, cement, horses, cows, canned fish, and cheese. Imports from the United States into Italy are admitted at the conventional rates of duty. [The Italian tariff has been issued by the Bureau of Manufactures as Tariff Series No. 15.]

REGULATIONS FOR IMPORTATION, INSPECTION, AND STORAGE OF PETROLEUM AND NAPHTHA.

The Bureau of Manufactures is in receipt of a Canadian customs memorandum containing the consolidated regulations concerning the importation, inspection, and storage of petroleum and naphtha, and the new regulations for the importation of petroleum and naphtha in tank ships, which take the place of the regulations of August 2, 1899. The memorandum will be loaned on request to those interested.

REGULATIONS AFFECTING THE IMPORTATION OF PLANTS.

Revised regulations under the "Destructive Insects and Pest Act" of Canada were issued on May 11, 1910. Collectors of customs are instructed to detain all articles which do not comply with the require-

ments of law and to notify the importer that, unless reexported, the articles will be destroyed. The new regulations are as follows:

* * * * * * *

2. No plant, or other vegetation or vegetable matter infested with any of the insects, pests, or diseases to which this act applies shall be imported into Canada except as hereinafter provided.

3. Nursery stock, including trees, shrubs, plants, vines, grafts, scions, cuttings, or buds, entering Canada shall be imported only through the ports and during the periods respectively hereinafter mentioned, that is to say:

Vancouver, British Columbia, and Niagara Falls, Ontario, from October 1 to May 1.

Winnipeg, Manitoba, and St. John, New Brunswick, from March 15 to May 15, and from October 7 to December 7.

Windsor, Ontario, and St. Johns, Quebec, from March 15 to May 15, and from September 26 to December 7.

At these points of entry the importations shall be fumigated in the fumigation houses provided for that purpose, and a certificate of fumigation will be issued, without which no stock may be taken out of bond. Importations by mail shall be subject to the same regulations. Provided, however, that the following vegetation shall be exempt from fumigation: (*a*) Greenhouse plants, with the exception of roses and other woody plants; (*b*) herbaceous perennials (the stems of which die down in winter), such as perennial phlox, peonies, sunflowers, etc.; (*c*) herbaceous bedding plants (such as geraniums, verbenas, pansies, etc.); (*d*) bulbs and tubers (such as hyacinths, lilies, narcissi, and other true bulbs, and also the tubers of dahlias, irises, etc.); (*e*) nursery stock originating in Europe.

Cottonwood or Necklace Poplar (populus deltoides) when shipped from and grown in Dakota or Minnesota, two of the United States of America, may be admitted at the customs ports of Brandon or Winnipeg, Manitoba, and without fumigation.

4. The port by which it is intended that the nursery stock shall enter shall be clearly stated on each package, and all shipments made in accordance with these regulations will be entirely at the risk of the shippers or consignees, the Government assuming no responsibility whatever.

5. All persons importing nursery stock into Canada shall give notice to the Minister [of Agriculture] within five days of dispatching the order for the same, and they shall again notify the Minister on the arrival of the shipment in Canada.

Notice shall also be given to the Minister by all transportation companies, customs-house brokers, and other persons importing or bringing nursery stock into Canada immediately such a consignment is received by them. Such notice shall include the name of the consignor and the consignee, the points of origin and destination, the name of the company carrying the nursery stock, as well as the nature, quantity, and origin of the same.

6. European nursery stock, and such other imported vegetation or vegetable matter as the Minister may determine, entering Canada may be allowed to proceed and shall be inspected at the point of destination, but must not be unpacked except in the presence of an inspector.

7. If, on inspection, nursery stock or other vegetation or vegetable matter is found to be infested with any of the insects, pests, or diseases hereinafter specified it shall be destroyed to the extent deemed necessary by the inspector and in his presence. All cases, packages, and packing in which such stock has been contained shall also be destroyed in the same manner.

8. Any inspector entering any lands, nursery, or other premises where there is reason to believe that any of the insects, pests, or diseases hereinafter specified are or may be present shall give instructions for the treatment or destruction of any tree, bush, crop, or other vegetation or vegetable matter or the containers thereof, which may be found or suspected to be infested with any of the insects, pests, or diseases hereinafter specified, and such instructions shall be carried out by the owner or the lessee of the infected or suspected vegetation, vegetable matter, or containers thereof, and such remedial treatment shall be carried out and continued until the insect, pest, or disease shall be deemed by the inspector to have been exterminated.

9. Compensation not exceeding two-thirds of the value as assessed by the inspector of the vegetation or vegetable matter or containers thereof destroyed

by the instructions of an inspector, shall be granted by the governor in council upon the recommendation of the Minister.

10. It shall be illegal to sell, offer for sale, or in any way dispose of or receive any trees, shrubs, or other plants, vegetable matter, or portions of the same if the same are infested with any of the insects, pests, or diseases hereinafter specified.

11. The owner, occupier, or lessee of any premises or place where any of the insects, pests, or diseases specified herein shall be found shall immediately notify the Minister, and shall also send to him specimens of such insects, pests, or diseases.

12. The destructive insects, pests, and diseases to which the said act shall apply shall include the following: San José scale (Aspidiotus perniciosus), brown-tail moth (Euproctis chrysorrhœa), woolly aphis (Schizoneura lanigera), West Indian peach scale (Aulacaspis pentagona), gypsy moth (Porthetria Dispar), potato canker (Chrysophlyctis endobiotica), parasitic diseases affecting potatoes externally or internally, branch or stem canker (Nectria ditissima), gooseberry mildew (Sphærotheca nors-uvæ), white pine blister rust (Peridermium Strobi).

13. The importation of potatoes into Canada from Newfoundland or the islands of St. Pierre or Miquelon is prohibited.

14. The Minister may, upon special request to that effect, authorize the importation into Canada of any insect, pest, or disease herein specified, but for scientific purposes only.

15. The regulations made under the San José Scale Act are repealed.

CUBA.

MODIFICATION OF ORDER REQUIRING THE USE OF SPANISH.

Cuban Treasury Circular No. 11, of April 18, 1910, requiring the exclusive use of Spanish in all invoices and bills of lading after July 18, has been materially modified by circular No. 12, of the Cuban Treasury, under date of May 12, 1910. A translation of the important provisions of this circular follows:

In view of the petition of the Chamber of Commerce of this capital and of Santiago de Cuba and requests from other commercial bodies, and desirous of harmonizing the interests of the State with those of the commercial classes, the Treasury Office has decided to modify circular No. 11, of April 18 last, hereby making provision that invoices in a language other than Spanish, presented with declarations of merchandise, shall be accompanied by a translation of the same to be signed by the receiver of the merchandise.

Bills of lading shall be admitted as heretofore, the portion of said circular relating to them being hereby repealed.

[Notice of the requirements of circular No. 11 appeared in Weekly Consular and Trade Reports of May 7, 1910.]

DUTY ON CIGARETTE PAPER INCREASED.

By the law of May 13 the duty on cigarette paper, cut to size or on reels, imported into Cuba, is increased from $4.60 per 100 kilos to 50 per cent ad valorem. The duty on cigarette paper in sheets remains unchanged, at $4.60 per 100 kilos. Cigarette paper imported from the United States is admitted at a reduction of 20 per cent of the duty.

PROPOSED FREE ENTRY OF BOOKS, SCHOOL APPLIANCES, AND CERTAIN MACHINERY.

Attention is called by Minister John B. Jackson to a bill that has just been introduced in the Cuban House of Representatives putting on the free list appliances, materials, and fixtures for educational use, as well as all books except those having covers of tortoise shell, ivory, or mother-of-pearl. At present, standard text-books, maps, and sci-

entific instruments, when directly imported for use in schools, are on the free list (tariff No. 337), while ordinary printed books (No. 155) pay a duty of $1.625 (or $1.30 if of American production) per 100 kilos, and other appliances pay according to the material of which they are made. Reference is made in the preamble to this bill to the fact that the Republics of Colombia, Argentina, Bolivia, Nicaragua, Salvador, Panama, Ecuador, Honduras, and the Dominican Republic permit the free importation of books.

Special petitions have been presented to the House of Representatives asking for the free importation of machinery for a condensed-milk factory at Camaguey, and machinery for a factory for making women's and children's clothing.

FORMOSA.

CONTEMPLATED ABOLITION OF EXPORT DUTIES.

Consul S. C. Reat reports from Tamsui that the Formosan government has decided to remove the export duty of 1.60 yen per picul (yen=$0.498; picul=133.33 pounds) on tea exported from Formosa after March 31, 1911. As the export duty on tea constituted practically the entire amount of revenue derived from export duties, the government has decided to abolish the duties on all articles exported from the island.

GERMANY-PORTUGAL.

EXCHANGE OF RATIFICATIONS OF COMMERCIAL TREATY.

According to a notice in the British Board of Trade Journal of June 2, an exchange of ratifications of the treaty of commerce and navigation between Germany and Portugal, signed on November 30, 1908, took place on May 21. In accordance with Article XXV, the treaty is to go into effect two weeks after the exchange of ratifications.

The treaty provides for mutual most-favored-nation treatment, and imports from Portugal will now be, therefore, admitted into Germany at the conventional rates of duty. Besides granting the conventional rates of duty, Germany accords the recognition of the names of "Port" and "Madeira" as purely regional designations and, as such, to be applied exclusively to wines the produce of the Portuguese regions of Douro and of the island of Madeira, respectively, exported from Oporto or Funchal and accompanied by certificates of origin and purity issued by competent Portuguese authorities. The reduced rate of 20 marks per 100 kilos ($4.76 per 220 pounds) on marsala wine is extended to port and madeira. No reductions from the existing tariff have been granted by Portugal on imports from Germany, the treaty providing that the present rates are to apply to German goods for the period of duration of the present treaty, except with regard to certain articles, the rates on which may be changed by Portugal within the limits specified in the schedule annexed to the treaty, and in exchange for reductions on German imports, specified in another schedule. The treaty is to remain in force for eight years, but may be denounced, with one year's notice, at the end of the fourth year. [The original and an English translation of the treaty are on file in the Bureau of Manufactures.]

JAPAN.

ADDITIONAL CHANGES IN THE TARIFF BILL.

According to a dispatch from the United States ambassador at Tokyo, the revised customs tariff, recently passed by the lower house of the Japanese Parliament, contains, among others, the following changes from the original bill:

The rate on wheat is raised from 0.60 to 0.77 yen per 100 kin (yen=$0.498; kin=1.323 pounds). The rate on wheat flour is raised from 1.65 to 1.85 yen per 100 kin. The rate on woven belting of cotton and cotton hose is increased from 20 per cent to 25 per cent ad valorem, and on the same articles of other materials, from 19.20 to 24.00 yen per 100 kin. (For further details regarding the revision of the customs tariff of Japan, see Weekly Consular and Trade Reports, April 2 and May 21, 1910).

PERU.

NEW TARIFF SHORTLY TO GO INTO EFFECT.

The following extract from the new customs tariff of Peru, which is to go into effect on July 1, has been transmitted by the American consul-general at Callao under date of May 4. Under the present tariff imports are subject to a number of surtaxes amounting to 11 per cent of the duty.

[Sol=48.665 cents; kilo=2.2046 pounds; liter=1.05668 quarts.]

	Present tariff.	New tariff.
	Sols.	*Sols.*
Boots and shoes for troops, miners, and hunters.....per kilo..	1.25	1.40
Boots and shoes for men, women, and children, in cardboard boxes.....do....	1.98	2.00
Bedsteads, iron.....do....	.09	.11
Bedsteads with ornaments of brass or nickel.....do....	.135	.18
Bedsteads with ornaments of mother-of-pearl or of other materials not specified.....per kilo..	45% ad val.	.40
Leathers, manufactured or sewn.....do....	1.80	2.00
Furniture, ordinary woods.....do....	.135	.13
Furniture, fine woods.....do....	.405	.34
Furniture, gilded or inlaid.....do....	.99	1.00
Furniture, metal.....do....	45% ad val.	.67
Furniture, Vienna style.....do....	.247	.25
Bicycles for children.....each..	15.75	a.90
Bicycles for men.....do....	33.75	1.50
Horse bits.....per kilo..	1.00	.50
Pumps, common, of iron or steel.....do....	.12	.09
Cartridges, empty.....do....	.36	.36
Cartridges, loaded.....do....	.28	.30
Gas or kerosene stoves.....do....	.20	.08
Phonographs.....do....	40% ad val.	2.00
Lumber, boards.....per square meter..	6.00	2.00
Lumber for boat building.....per kilo..	.16	Free.
Hose, leather.....do....	.24	.30
Typewriters.....do....	Free.	.02
Cameras, photographic.....do....	.60	.02
Paraffin in paste.....do....	.12	.08
Paste for cleaning metals.....do....	.32	.40
Paints, ordinary, in oil.....do....	.08	.04
Watches, silver.....each..	10% ad val.	1.00
Watches, gold.....do....	10% ad val.	2.50
Watches, gold, calendar, repeaters.....do....	10% ad val.	8.00
Clocks.....do....	40% ad val.	1.00
Jewelry, imitation.....per kilo..	40% ad val.	12.00
Valves, rubber, for machines.....per kilo..	.12	.80
Olive oil, in tins or glass.....do....	.13	.10
Olives.....do....	.28	.20
Soda water, ginger ale, etc.....do....	.064	.06
Corned beef.....do....	.24	.20
Biscuits, ordinary, without sugar or lard.....do....	.052	.08
Biscuits, fine, with or without sugar.....do....	.325	.30
Gelatine, paste.....do....	.48	.45
Gelatine, liquid.....do....	.28	.20
Tallow, beef.....do....	.08	.05
Milk, condensed, in tins.....do....	.16	Free.
Beef tongue, in salt, barrels or kegs.....do....	.12	Free.
Lard.....do....	.13	.004

a Per kilo.

	Present tariff.	New tariff.
	Sols.	*Sols.*
Butter.....per kilo..	0.325	0.20
Margarine.....do....	.78	.80
Beans, peas, etc., dried.....do....	.005	Free.
Linseed cake.....do....	.012	Free.
Cheese, in any form.....do....	.195	.18
Alimentary products not specified.....ad val..	40%	30%
Brandy, cognac, Kirsh, anlseed spirit.....dozen..	7.80	a.90
Whisky, in bottles.....do....	5.20	a.60
Gin, Old Tom.....do....	3.90	a.40
Angostura bitters.....do....	6.50	a1.00
Cocktails, in bottles.....	.....	a.90
Beer, in bottles.....dozen..	1.80	a.20
Beer, in kegs.....liter..	.117	a.12
Wines:		
Champagne, in bottles.....dozen..	13.00	a1.30
Port, Sherry, Madeira, Muscatel, and other generous wines not mentioned.....dozen..	7.80	a.90

a Per liter.

PHILIPPINE ISLANDS.

OLD DUTY ON RICE TEMPORARILY RETAINED.

According to a recent order of the government of the Philippine Islands, the new rates on rice which were to go into effect on May 1 will not become effective until January 1, 1911. By the new tariff of 1909, which went into effect October 5, 1909, the duty on unhusked rice was raised from $0.60 to $0.80 per 100 kilos, and on husked rice from $1 to $1.20 per 100 kilos. The customs act provides that the governor-general, by and with the advice and consent of the Philippine Commission, may, in his discretion, continue in effect the old duty on rice until, in his judgment, conditions in the Philippine Islands may warrant the application of the higher rates prescribed by the new tariff.

PORTUGAL.

AUTHORIZED IMPORTATION OF WHEAT.

Consul-General Louis H. Aymé reports from Lisbon that a decree was issued on May 14 authorizing the importation of 40,000,000 kilos of foreign wheat (44,093 short tons) into Portugal by July 10. The duty on this wheat is fixed at 12 reis per kilo, which at the present rate of exchange would be $0.0049 per pound.

RUSSIA.

CERTAIN KINDS OF FARM MACHINERY CONTINUED ON FREE LIST.

According to advices received from the American embassy at St. Petersburg, under date of April 27, 1910, no tariff change affecting agricultural machinery is probable before July, 1912, in spite of the recent agitation in favor of subjecting all farm implements and machinery to import duty and increasing the rates on those already dutiable.

The commission on revision of tariff on agricultural machines recently submitted its report, which recommended no change in the free admission of rakes or in the established duty on mowers. It favored extending until July 1, 1912, the special regulation by which sections, rake teeth, binder attachments, and all parts belonging to

them, and binder canvases enter free. The commission, however, recommended a duty on self-binders from January 1, 1911.

This report did not reflect the opinion of the agricultural interests in the Duma, and was not approved by the Council of Ministers to which it was rendered. The latter instead submitted to the Duma a project providing not only for the extension of the regulation cited, but also for the extension until July 1, 1912, of the existing tariff under which self-reapers enter free; this project, if not acted on at present, will probably be disposed of in the fall.

The actual situation is, therefore, that no change in the Russian tariff with reference to agricultural machinery is probable at least until July, 1912. [An article on the proposed revision of rates on agricultural implements and machinery appeared in the Daily Consular and Trade Reports, December 17, 1909. For rates of duty at present in force, see Tariff Series No. 3 and supplement thereto, now in press.]

ATTITUDE OF AGRICULTURAL INTERESTS.

Consul J. E. Conner, of St. Petersburg, in discussing the importance of American farm implements to the Russian peasant, states that, while members of the Duma from the larger industrial centers are in favor of encouraging the manufacture of farm implements and machinery in Russia, the country members strongly oppose the imposition of any duty thereon. According to a local writer quoted by the consul, agricultural opinion throughout the Empire is united on three propositions:

1. That the system of land tenure prevailing in central Russia, under which the tillable land is held in common by the village and is assigned to the cultivators in strips, is destined to disappear. These strips often cross each other and contribute confusion to the loss occasioned by public ownership. The peasants of each commune are mutually responsible for arrears in taxes.

2. That the peasant farmers must be taught to adopt methods of deep-soil tillage as developed in western Europe and in the United States.

3. That the peasants must be taught what is the best agricultural machinery and how to utilize it. A local agricultural writer maintains that "unless the ideal farm machinery and implements offered by American manufacturers can be placed at the service of the Russian peasant to the extent of his limited means, the first two points of this programme can not be carried out."

There are at present, according to this writer, 3,500 depots for storing and exhibiting agricultural machinery manufactured in Russia and abroad, 3,000 of which are in Siberia. Of these, 60 large warehouses were opened by the Emigration Bureau of the Department of Agriculture in the Trans-Ural region. Here, as well as on the model farms organized by the Zemstvos, the peasants are shown how to operate the best machines, German and American, and the latter especially have become quite popular. The peasant will invest his last 40 rubles in an American plow rather than pay 7 rubles for a "draggie" of local manufacture.

Statistics show that the importation of agricultural machines has enormously increased in recent years. The German manufacturer, by means of long-time credits and big discounts, is a strong competitor.

SAINT LUCIA.

INCREASED DUTY ON MANUFACTURED TOBACCO.

By amendment to the customs tariff of 1907 of the West India island of St. Lucia, the import duty on manufactured tobacco, other than cigarettes, cigars, and snuff, has been increased from 1s. 6d. to 2s. per pound. The amendment was adopted April 20, 1910.

SALVADOR.

CUSTOMS CLASSIFICATION OF AUTOMOBILES.

According to a decision of the Treasury Department of Salvador, dated May 14, the duty on automobiles, new or secondhand, is to be 10 centavos per kilo from July 1. Automobiles are not mentioned specifically in the tariff of Salvador, and they were probably dutiable at 20 centavos per kilo under No. 240, which applies to carriages of all kinds. The method of collecting duty in Salvador is as follows: Only 83 per cent of the duty specified in the tariff is collected, of which 37 per cent is payable in gold and the remaining 46 per cent in silver (silver peso=100 centavos, now valued at 37.8 cents). To the above duty should be added a surtax of 6 pesos gold per 100 kilos and 30 per cent of the aggregate amount of duty.

TURKEY.

EXPORTATION OF SHEEP, GOATS, CAMELS, AND HORSES FROM TRIPOLI PROHIBITED.

Ambassador Straus transmits from Constantinople a circular issued by the Turkish Government on May 15, prohibiting until further notice the exportation of sheep, goats, camels, and horses from the Vilayet of Tripoli, in Africa.

UNITED KINGDOM.

PROVISIONS OF REVENUE ACT OF 1909.

Consul-General John L. Griffiths, of London, furnishes the following information concerning the production of invoices, the liability of warehousemen, and the origin and destination of goods passing through the customs, under the revenue act of 1909:

Proper officers may now require from an importer or exporter, or his agent, production of invoices, bills of lading, or other documents relating to goods cleared or entered, at any time within twelve months of such delivery or entry, in addition to and not in derogation of the production of such documents on entry or delivery of goods.

If any deficiency is found in any package of imported goods warehoused beyond that accounted for by natural wastage, the occupier of the warehouse is made immediately liable to pay duty on the full quantity originally warehoused, or in default to forfeit double the amount of the duty.

The information now to be required by the customs as to the origin and destination of goods is as follows: In the case of imported goods, the name of the place from which the goods were first consigned to the United Kingdom, and in the case of exported goods, the name of the place of final destination; if necessary, evidence may be required in support of such particulars.

VENEZUELA.

CLASSIFICATION OF CERTAIN ARTICLES FOR CUSTOMS PURPOSES.

Decisions dealing with the classification of the following articles for customs purposes have recently been issued by the Venezuelan Government:

Asbestos and cement tiles are dutiable under class 2, at 0.05 bolivar per kilo gross (bolivar, $0.193; kilo, 2.2046 pounds). Porcelain and glass jars for ointments and drugs, with or without stoppers, are dutiable under class 4, at 0.75 bolivar per kilo gross. Telescopes without silver or gold fittings, corrugated sheet iron for roofing, and cash registers are dutiable under class 3, at 0.25 bolivar per kilo gross. Sheet iron gutters are dutiable under class 4, at 0.75 bolivar per kilo gross. Revolvers are included under class 7, at 5 bolivars per kilo gross. A surtax of 55 per cent of the duty is added to the above rates.

MINING AND MINERALS.

ASPHALT INDUSTRY.

VENEZUELA.

CONDITIONS AT THE REOPENED BEDS NEAR GUANOCO.

Minister W. W. Russell, of Caracas, forwards a report prepared under instructions from him by Secretary of Legation Sheldon Whitehouse, on the operations at the Guanoco deposits, where the taking out of asphalt was resumed last year:

Guanoco lies 43 miles by water from the Gulf of Paria and 120 miles from Port of Spain, Trinidad. The river leading in from the gulf is the San Juan, which is broad, deep, and easily navigable. The tide does not affect navigation except at the bar, which at low tide has 17 feet of water. The Guanoco River is used for the last 3 miles of the trip and is narrow and winding, but has plenty of water.

The trip up from the bar is made much slower from the situation of the custom-house, which is at Cano Colorado. On crossing the bar a Venezuelan customs official is taken on board from a vessel lying there, and he stays with the boat until it leaves Venezuela. Twenty miles up the river, at Marietta Point, the steamer leaves the direct route and continues on up the St. Francis River for 16 miles, where it anchors. The agent of the company here has to take a rowboat for 8 miles to the custom-house at Cano Colorado. With a favoring tide the journey takes two hours, the formalities about the same, and the return journey more, so that under the most favorable circumstances the steamer has to wait for six hours. Then the river has to be retraced for 16 miles back to Marietta Point, where the direct route is again resumed. It is possible to go from the point where the stop is made for the custom-house directly to the Guanoco by the Rio Dos Aguas, but it is impracticable for large steamers.

OPERATIVES AT DEPOSITS—OUTPUT.

Guanoco itself is a small village of about 50 adobe houses, mostly occupied by employees of the company. There are three white men in the place, the manager, the cashier, and a foreman; the two former are Americans, the latter an Englishman. The total number of workmen is about 200. The asphalt lake is five miles away and a narrow gauge railroad runs up to it. After getting the asphalt out it is put into tubs, run down to Guanoco and dumped into a deposit near the pier. This deposit holds 6,000 tons, but there is also a

further deposit of 4,000 tons available. When a cargo steamer arrives, it is loaded from the former deposit.

As the company only recovered the property in March, 1909, it was unable to make any shipments until July. From July to December six shipments of crude asphalt were made, totaling approximately 17,000 tons, valued roughly at $5 per ton. The asphalt is not weighed until its arrival in the United States, the amount being judged by the number of tubs taken out of the deposit. All excess duties to the Venezuelan Government are paid as soon as the accurate figures are obtained, as shown by a certificate from the New York custom-house. But the company has bought scales, which are already in Venezuela, and are soon to be installed. During the wet season from 100 to 125 tons per day can be taken out of the lake, but during the dry season, the first six months of the year, it can be worked much faster, so that 40,000 tons would be a fair estimate of the output for 1910. It appears that the property might be worked faster, but the present output has met the demand thus far created by the New York agents.

The general conditions seem healthy for the laborers, and the company now has a Venezuelan doctor there all of the time. One man who had been there for 14 years, most of the time working in the water, seemed perfectly happy. After a month's work the company gives each laborer who desires it a free passage to Trinidad.

LA GUAIRA.

LARGE DEPOSITS OF HIGH-GRADE ASPHALT AT INCIARTE.

Consul Isaac A. Manning, of La Guaira, announces the resumption of mining operations at the Inciarte asphalt deposits, on the Rio Limon in the Lake Maracaibo region of Venezuela:

The Inciarte asphalt deposits and the railway connecting them with water transportation are now being operated, and exportation of the first 1,000 tons of asphalt is about to be made (March, 1910). This asphalt is said to run 94 per cent pure in the crude form, and to refine to 99 per cent. The deposits lie about 27 miles from navigable water on the Rio Limon, which empties into Maracaibo Lake near Fort San Carlos. There is said to be an apparently unlimited quantity of this product, and the concessionaire and the representative of the American capitalists are agreed that 200,000 tons are already in sight.

The most important question is that of transportation, which at present is over the railway mentioned, 27 miles; thence 50 to 60 miles down the Rio Limon to Punta Diablo on Maracaibo Lake, in "bongos" or small lighters. It is proposed, however, to dredge a bar near the mouth of the Limon, which will permit the smaller lake steamers to perform this traffic.

This deposit is in what is considered one of the richest districts of Venezuela, as coal, petroleum, hardwoods of excellent quality, and many other natural products are found near here. The capitalists exploiting this concession are also considering exploitation of the woods, and have sent samples to the United States for the purpose of classification and valuation.

The asphalt concession is well equipped for immediate work, the old company having put in excellent machinery, shops, etc., which

are said to be in first-class condition. The railway was suffering from neglect but is being rapidly placed in good repair. It is a 36-inch gage, and the equipment consists of three American-made engines, twenty-eight 8-ton cars, and some small flats. If work is carried ahead on the deposits, as no doubt it will be, the company will require additional equipment. The ties in use there are of hard woods, 6 inches square by 6 to 7 feet long, and cost 1 bolivar ($0.193) each laid down alongside the railway.

One question to be settled yet by the company is that of vessels for shipment of the product to New York, as the cost of too many handlings of the product makes transshipment almost impossible, and at present a vessel carrying over 450 tons of cargo finds the passage of the Maracaibo or San Carlos bar unsafe.

CANADA.

WINNIPEG HAS MUNICIPAL ASPHALT PLANT.

Consul-General John E. Jones, of Winnipeg, reports upon the successful operation of a plant owned and operated by that city for preparing and putting down asphalt pavements:

Winnipeg has a municipal asphalt plant, established in 1899 at a cost of $14,000. The first asphalt was laid in 1897 by contract—7,314 square yards, at $2.35 per square yard, Trinidad Lake asphalt being stipulated. In October, 1898, tenders were asked for paving 17,801 yards on Portage avenue, one of the city's principal thoroughfares. About that time the civic authorities deemed it desirable to establish a municipal plant, and the plant of the local company was purchased.

Experimenting showed that the best mixture for wearing surface of an asphalt pavement was 10 to 12 per cent bitumen, 78 to 85 per cent sand, and 5 to 10 per cent pulverized limestone. The various kinds of asphalt used have been Ventura, Alcatraz (small quantity), Obispo, Acme, Los Angeles, Trinidad Lake, Trinidad Land, Venezuela, and Bermudez. Trinidad Land, it is said, was found to be the least satisfactory. The asphalt for 1907–8 was bought from Venezuela, for 1909 from Mexico.

The preparation for an asphalt pavement in Winnipeg is thoroughly made. The street is excavated 11 inches. Soft and spongy places are dug out and refilled with good earth, well rammed. Curbing is laid on grades and lines given by the engineer in trenches of the required depth, filled with broken, coarse, macadam stone. Upon the subgrade is laid a bed of Portland cement concrete 4½ inches thick, made by first mixing dry and then making into a mortar one measure of cement equal to the best quality of Portland cement and three of sharp, clean sand. The binder course consists of broken stone and asphaltic cement, about fifteen gallons of cement to one cubic yard of stone, the stone broken to three-fourths inch. The stone is heated by passing it through revolving heaters, and thoroughly mixed with the asphaltic cement. It is laid hot and rolled with hand and steam rollers.

The average cost of paving the streets of Winnipeg with asphalt is about $2.30 per square yard. There are 58 miles of asphalt-paved

streets in the city. During 1908 and 1909 extensive paving operations necessitated the maintenance of 125 men at the plant and 75 men on the street during the busy season.

The city is situated on a practically level prairie, at the confluence of the Assiniboine and the Red River of the North. The street level is about 7 feet above extreme high water and about 33 feet above extreme low water in the river. The elevation above the sea level is about 754 feet. The climate is quite hot in summer, and in winter the thermometer occasionally reaches 40 degrees Fahrenheit below zero. The snowfall is usually light, the pavements in places, notably in the car tracks, being almost or quite bare of snow throughout the entire winter. From these circumstances it will be seen that conditions in Winnipeg are a particularly severe test of asphalt pavements; but, notwithstanding this, the cracks made by frost and disintegrations from other causes are few and small, and rarely show on the surface.

GERMANY.

IMPORTS OF ASPHALT CONSIDERABLE—ITALY PRINCIPAL SOURCE.

Consul-General Robert P. Skinner, of Hamburg, gives information as to the quantity, grades, and manner of using asphalt in Germany:

Large quantities of asphalt are imported into Germany, of which a very inconsiderable proportion is received from the United States, and none, apparently, from South America. The total importations in 1909 were 98,377 tons, and in 1908, 130,062 tons; of which Italy supplied 61,828 tons and 83,778 tons, respectively; Switzerland, 10,538 and 16,687 tons; British America, 17,315 and 18,802 tons; and the United States, 3,753 and 3,639 tons.

Asphalt is on the German free list as respects duty, when the specific gravity of the material is not less than 0.96 at a temperature of 15 degrees Centigrade, and when imported for the purpose of mixing with natural asphalt or tar for use in the manufacture of asphalt or tar board.

Soft, medium, and hard asphalts are in demand, present prices ranging from 90 to 120 marks ($21.42 to $28.56) per ton, according to grade. The largest manufacturers of paving mixtures in this city claim that prices now fluctuate between 75 and 90 marks ($17.85 and $21.42) only for the grades they require.

The total length of the paved streets in Hamburg is 443 kilometers (275 miles), of which 6 per cent are paved with asphalt, 6 per cent with square stone blocks on concrete foundation, 15 per cent with square stone blocks without concrete foundation, and 0.6 per cent with wooden blocks. In all of the classes of pavement just mentioned asphalt is used to a greater or less extent. The interstices between the large square blocks, used so extensively in the center of the city, are filled with a mixture called Stampfasphalt, the formula for which has been prescribed by the Hamburg government. Upon many of the pavements of wooden blocks an asphalt coating is applied, producing a surface exactly like that of a solid asphalt pavement.

IRON INDUSTRY.

CHINA.

AN AMERICAN STEEL COMPANY CONTRACTS FOR LARGE SUPPLIES.

In reporting the signing of a contract for the supply of Chinese pig iron and iron ore to an American concern by the Hanyang Iron and Steel Works, of Hankow, Vice-Consul Hubert G. Baugh gives the following details:

The contract calls for the shipment to the Western Steel Corporation, at Irondale, Washington, of at least 36,000 tons each of pig iron and iron ore annually for 15 years. At the option of the purchaser the shipments may be increased to 100,000 tons in a year. This Chinese ore is guaranteed 62 per cent pure, and the pig iron from it was quoted last December at $25 per ton, against $23 to $24.50 for English and Continental.

The total output of pig iron of the Hanyang works for 1909 was 74,000 tons. A new blast furnace to be started shortly will enable this to be doubled, but if the possible maximum of 100,000 tons is desired by the American Steel Company it can readily be seen that the larger part of the output of the Hanyang works will be exported. Exports to Shanghai and other Chinese ports amounted in 1909 to 16,800 tons, to Japan 23,700, to the United States 3,800, a total of 44,300 tons.

The Robert Dollar Steamship Company will transport the ore and pig iron, and at least 12 trips a year will be necessary to carry the minimum amount. For this service one or two new steamers will immediately be constructed in the British Isles. Though these will fly the British flag they will be owned by American capitalists. It will require considerable freight to fill these vessels in the outward cargo, and this enterprise should help increase trade between the United States and China. The proposed trip next September of representatives of the Associated Chambers of Commerce of the Pacific coast should further stimulate this commerce.

RUSSIA.

EXPORT TRADE CONSIDERED IN ITS EXPERIMENTAL STAGE.

Consul John H. Grout, of Odessa, furnishes the following statistics covering the exports of iron from Russia during the past two years:

While the foreign iron trade of Russia must attract attention, as a relatively new branch of trade, the following statistics will go far toward showing it is still in its experimental stage.

During 1909, 174,546 tons of cast iron and malleable iron and steel were exported, against 119,178 tons in 1908, and 5,084 tons of iron and steel ware, against 5,328 tons in 1908. The increase in the exports of cast iron and malleable iron and steel was wholly due to an increase of 47 per cent in the exports of rails and rail fastenings in 1909, all other exports showing decreases as compared with 1908, the fully worked-up articles, such as railway carriages, sheet iron, fashioned iron, etc., showing a great falling off from 1908. Railway carriages were exported in 1909 only to the number of 100 against 441 in

1908, but 19 steam engines were exported in 1909, while none were exported in 1908.

The following statement shows whither the exports of iron and steel went in 1908 and 1909:

Whither exported.	1908.	1909.	Whither exported.	1908.	1909.
	Tons.	*Tons.*		*Tons.*	*Tons.*
South America	11,034	56,394	Bulgaria	.....	5,148
Africa	2,808	35,406	United States	.....	3,708
Germany	2,502	16,452	All other countries	57,996	42,866
Great Britain	25,506	11,934			
Roumania	24,660	7,722	Total	124,506	179,630

PETROLEUM INDUSTRY.

PERSIA.

AMERICAN IRON PIPE PURCHASED FOR DEVELOPMENT.

Consul Frederick Simpich, of Bagdad, contributes the following account of oil developments at the head of the Persian Gulf:

Much activity has been shown the past winter by the new Anglo-Persian Oil Company; 20,000 tons of piping from the United States were brought to Mohammereh, at the mouth of the Tigris and Karun rivers, transported up the Karun Valley, and is being laid to connect the wells near Awaz with the refinery to be built at Mohammereh. For transport purposes 350 mules were bought by the oil company in Bagdad, in January, and shipped to Awaz. The concern, which has a concession covering nearly the whole of Persia, as shown by a map forwarded, has surveyed the oil belt from Khanikan to Bunderabas, about 1,000 miles. In two places productive wells have been located, viz, near Awaz, in the south, and on the Diala River, in Kurdestan. Oil indications extend the full length of this belt, and in many places along its length the natives have produced crude oil for their own consumption for many years.

This company, capital $10,000,000, and which is associated with the Burmah Oil Company, acquired the rights of W. K. D'Arcy, who, in 1901, obtained a concession for oil drilling in the western provinces of Persia. The British navy in the Persian Gulf is expected to secure its future fuel supply from the Mohammereh refinery. Coal is now scarce and expensive.

Other oil deposits are said to exist around Khanikan, in the northern part of the concession and near the Turkish frontier. As these oil fields probably extend into Turkish territory concessions are being sought from the Ottoman Government for drilling oil wells, especially between the Tigris River and the city of Mendeli, eastward. [The name of one firm interested in the project, also the map of the region, drawn by the consul, may be obtained from the Bureau of Manufactures.]

ASIATIC TURKEY.

ARRIVAL OF THE FIRST SHIPMENT OF AMERICAN PETROLEUM.

Under date of April 20, Consul-General Ernest L. Harris furnishes the following information concerning the proposed exploitation of the

American petroleum trade in Asia Minor, with Smyrna as the base of supply:

The first shipment of American petroleum has arrived in Smyrna. Some months ago the Standard Oil Company began the erection of tanks, warehouses, and a pier extending 300 feet into the sea at this port, which will be completed next autumn, at a total cost of $100,000. The shipment just received consists of 100,000 cases of oil, which came from New York in a special steamer, and will be stored temporarily in rented warehouses for distribution to the trade.

It is the intention of this company to establish petroleum depots at every railway station in the interior of the country where there is a chance to do business. The two railway companies which tap the back country will build tank cars for transporting oil in bulk. As soon as the pier and tanks are completed it is probable that most of the petroleum coming from the United States will be in bulk. It is also intended to build several steam crafts to supply the islands of the Archipelago and coast towns with oil from the main plant at Smyrna. These vessels will fly the American flag. Approximately about $1,000,000 will be spent in furthering the oil business in the Smyrna region, as the needs of the trade expand.

ARGENTINA.

PETROLEUM RESIDUES AS FUEL.

Minister C. H. Sherrill, at Buenos Aires, furnishes the following information concerning recent petroleum residue experiments in Argentina:

There has recently taken place, under the supervision of Mr. Evaristo B. Moreno, of the Argentine Ministry of Public Works, experiments tending to show that practical use may be made of the residues of Argentine petroleum by distillation, which will eliminate from the mineral all the most volatile materials. The experiments were attended with most satisfactory results, and show that with a pressure of 8½ atmospheres 1 kilo (2.2 pounds) of petroleum can be made to vaporize 12 kilos of water. Experiments were also made to demonstrate the superiority of petroleum as fuel over coal. In the same marine caldron used in the petroleum tests and with the same atmospheric pressure 1 kilo of coal vaporized only 8 kilos of water, or, in other words, under similar conditions, a given weight of petroleum will convert into steam half again as much water as an equal weight of coal will do. It is stated that the Minister of Marine will issue an order that petroleum be given a trial on one of the Argentine war vessels, and should it prove satisfactory, that it replace coal on all the vessels of the navy.

It can readily be seen that a country which imports coal to the value of $22,000,000 every year will welcome a discovery which will enable it to replace that fuel with a native product.

The lands at present worked by the Government cover an area of 22,960 by 9,840 feet, some wells yielding as much as 1,750 cubic feet of petroleum per day. The wells being worked under the Ministry of Agriculture in the south are developing slowly, owing to the lack of funds, no funds having been added to the original appropriation of $300,000.

ASBESTOS IN GERMANY.

MANY IMPORTANT USES TO WHICH THE MINERAL CAN BE APPLIED.

In answer to an inquiry Consul-General Robert P. Skinner, of Hamburg, furnishes the following information concerning Germany as a market for asbestos and the many new applications of this mineral:

Two classes of asbestos are upon the market—one of a fibrous description, for which there are many industrial applications, as it can be spun and woven; the other, amphibolic asbestos, is chiefly used for insulating purposes, for filters, the manufacture of gas stoves, and in chemical laboratories. The German consumption of this class of asbestos, which is not distinguished in official statistics from the fibrous variety, is estimated at 500 to 600 tons per annum, the raw material being obtained from German, American, and Russian deposits. The opinion is submitted that the ground material can be shipped to this market more cheaply from Russia than from the United States. The prices fluctuate between $14 and $31 per ton c. i. f., Hamburg or other German port. As much as $35 has been paid for finely ground, washed amphibole.

Amphibolic asbestos would seem to have a promising future, and will be used eventually in a number of industries where it is now scarcely known. When mixed with the raw materials for the manufacture of glazed earthenware and tiles, the product is less likely to break in the burning and stands higher temperatures after having been burned. The addition of 5 per cent of ground amphibolic asbestos is the quantity recommended in the pottery trade. Mixed with marine paint it tends to prevent the rusting of the metal to which the paint is applied. It is thought that the ground material would improve asphalt pavements, and could be used also as filling material for automobile tires and for hard-rubber articles.

Mr. Carl Gluth, Hamburg, who has given the subject much study, advances the theory that amphibolic asbestos contains radium, and for this reason is valuable as an insulating material. He has invented a special process of mixing finely-ground asbestos with tar products, the combination having been used by leading manufacturers and by a number of street-railway companies. Experiments proved that the insulating material without the asbestos would not yield the same results. The cost of manufacturing this insulating combination was about $6 per 220 pounds, and the selling price reached as much as $16 to $24. Although the enterprise was profitable, the inventor, for personal reasons, retired from the business.

The German market for fibrous asbestos has increased steadily for a number of years, the imports at Hamburg in 1908 amounting to 13,740 tons, received from the following countries: United States, 5,174 tons; Canada, 6,313 tons; Russia, 1,157 tons; and in small quantities from British South Africa, Siberia, East Africa, Australia, Cyprus, Belgium, and Italy. Of the total imports, 2,168 tons were reexported. The average value of the importations at Hamburg in 1908 were as follows, per 220 pounds: United States and Canada, $5; Russia, $12.15. [A list of Hamburg asbestos dealers, forwarded by Consul-General Skinner, is on file in the Bureau of Manufactures.]

PLACER MINING MACHINERY.

A MEXICAN INVENTION FOR HANDLING CONGLOMERATES.

In reporting unusual interest in the mining district of Altar, Mexican State of Sonora, Consul Alexander V. Dye, of Nogales, describes a new machine used there for reducing gold conglomerates:

The gold placer field in this district is of very large extent, although of greatly varying richness. The gold grains are usually coarse and embedded in a cement conglomerate known as argonosy or caliche. Although the gold-bearing properties of this conglomerate have been known for many years, it has hitherto been found difficult to crush and handle it with profit, owing to the great scarcity of water in this region. Recently the Quinner machine has been invented and placed in operation in this district, which in the opinion of mining men will enable them to handle this conglomerate with profit.

Quinner placer-mining machine set up ready for use.

The machine consists of a cylinder about 6 feet long and 3 feet in diameter, made of steel slats with interstices one-eighth inch wide. To a steel shaft passing through the cylinder are attached chains 3 inches apart and arranged in spiral form. At the free swinging ends of these chains are steel slugs 6 inches long and 3 inches in diameter, which clear the cylinder by about 3 inches. The shaft revolves 375 revolutions per minute, while the outside cylinder turns in the opposite direction 28 revolutions per minute. By centrifugal force the chains stretch out and the slugs strike a blow of 1,800 pounds in one round.

The spiral arrangement acts like a grinder and discharges the hard pebbles of the conglomerate from the end of the cylinder, while the cement which contains the gold grains is pulverized and passes through the interstices of the cylinder into troughs below. This

powder is then treated by the ordinary dry-washer process. The pulverizer uses no water, and the only water required is in the boiler of the engine. Three machines have been constructed and placed in operation and improvements are being made.

During the last six months of 1909, 293 mining claims, covering 13,820 acres, were issued in the State of Sonora. A mineral agency for filing claims is located in the principal city of each district, viz, Alamos, Altar, Arizpe, Guaymas, Hermosillo, Magdalena, Moctozuma, Sahuaripa, and Ures. The unit of mining claims in Mexico is the pertenencia or hectare=2.471 acres.

SOUTH AFRICAN GOLD.

ONE-THIRD THE WORLD'S OUTPUT PRODUCED IN THE TRANSVAAL.

From late government statistics Consul Edwin N. Gunsaulus, of Johannesburg, notes a constantly increasing output of gold in the Transvaal, as the following shows:

The Transvaal produced in the year ended June 30, 1909, 7,294,711.855 fine ounces of gold, valued at $150,793,303, an increase of 583,275.269 ounces and $12,057,230 over the previous year. The Witwatersrand area alone turned out 7,038,306 ounces, worth $143,492,903. Of the estimated gold output of the world for the year 1909 the Transvaal furnished nearly one-third. The output of all South Africa, in 1909, including the Rhodesian yield ($12,768,279), will constitute over 35 per cent of the world's gold supply.

In the eight gold-mining districts of the Transvaal there were in operation on June 30, 1909, no less than 118 mines with 9,864 stamps and tube mills at work, an increase of 743 over those in operation on June 30, 1908. In addition to the stamps and tube mills actually at work at the end of June, 1909, there were at that time 1,358 erected for future use in gold production. This number is being constantly added to in order to keep pace with the expanding industry. The total average number of persons employed in the gold mines of the Transvaal for the year was 180,916, of whom 19,710 were whites, 10,242 Chinese, and 150,934 colored.

RHODESIA'S GOLD YIELD.

According to the latest official reports the total gold output of Rhodesia for the calendar year 1909 was 623,338.42 fine ounces, valued at $12,768,279, an increase in value over the previous year of $475,481. These figures do not represent the actual progress made in Rhodesia gold mining, as a great deal of prospecting and developing work has been done, the results of which, so far as mineral output is concerned, can not be computed at this early date. In 1909, according to the South African Mining Journal, no less than 560 different companies declared production, as against 435 in 1908. The grade of ore milled by the whole country improved during the year by 30 cents per ton.

The success and extent of gold mining in Rhodesia, as in all of South Africa, depend very largely upon the available supply of native (colored) labor, a problem constantly confronting the gold-mining companies, and it is admitted that the Rhodesian supply has been quite inadequate throughout the year. The average number of native laborers employed in the Rhodesian mines during the year was 32,868.

MARBLE PRODUCTION IN SPAIN.

OLD MOORISH QUARRIES TO MEET COMPETITION FOR THE FIRST TIME.

Consular Agent A. E. Carleton, of Almeria, furnishes the following report covering the workings of the old Moorish marble quarries at Macael, Spain, and the establishment of up-to-date quarries in the Charcos Mountain:

In the days of Moorish dominion in Spain the quarries in the Macael district were of considerable importance, and much of the marble in the Alhambra came therefrom. The marble extracted is white in color, coarse grained, with straight gray or blackish markings.

The method of extraction has not varied since the quarries were first opened. The marble is obtained by cutting grooves in the rock with hammer and chisel, and then, by a number of small wedges driven into these grooves, the pieces are split off, afterwards being squared by hand labor. Transportation is likewise primitive, as the marble is carried from the quarries to the little water-power sawmills by means of ox carts. The blocks are sawed into slabs of varying thicknesses. The water power is available for only a few months of the year.

Owing to a heavy tariff on imported marble the Macael variety is in good demand throughout Spain on account of its cheapness, as compared with Italian marble, the average price per square meter (10.76 square feet) for three-quarter-inch slabs being $1.08, and for blocks $25 to $34 per cubic meter (35.316 cubic feet). The natural difficulties, however, together with lack of sufficient capital and lack of organization, have always retarded the development of the quarries, and now the industry itself is threatened seriously with organized competition at its very doors.

THE CHERCOS QUARRIES.

Some time ago a group of English capitalists acquired a number of quarries and marble-bearing properties in this district, and discovered in the mountain of Chercos an immense deposit of white marble of a faint bluish tint, with veins and markings similar to the ordinary Italian marble, the only difference between it and the latter being in the coarseness of the grain.

Wire saws are being used for cutting the masses from the mountain as well as for squaring the same into blocks, and machinery is installed for handling masses up to 70 tons and for supplying finished blocks up to 15 tons. Transport is effected by traction engines capable of drawing 30 tons at one load.

The works in Albanchez have been equipped with the most modern and up-to-date machinery, the motive power being obtained from two 80-horsepower suction gas engines and plant. Six frame saws for cutting the marble into slabs have been mounted, each of which can carry 70 blades and produce slabs 11 to 15 feet in length. The installation includes diamond saws, carborundum molding and cutting machinery, polishing and disk machinery, etc. The railway station is at Almanzora, about 40 miles from Aguilas, the nearest port of shipment. [Samples of this marble can be seen at the Bureau of Manufactures.]

SALT INDUSTRY.

MEXICO.

NEW CONCESSION OFFERS OPPORTUNITY FOR AMERICAN MACHINERY.

Consul-General Arnold Shanklin, of Mexico City, writes that a concession has been granted for the exploitation of salt deposits on the west coast of the State of Jalisco, which offers an opportunity for the sale of American machinery to equip the industry. He says:

In addition to showing the rapid growth of this industry during the past few years the concession will be of interest to the United States, because several hundred thousand dollars will be invested in machinery and other appliances for the work. It should also be of particular interest to the Pacific coast, as practically the entire output will be exported and sent to Pacific coast cities by water, and may be of sufficient volume to affect the price of that commodity in such cities as Los Angeles, San Francisco, Portland, Tacoma, and Seattle. The concession was granted to a native hacendado [name on file in the Bureau of Manufactures].

This concession brings the number of those of recognized importance up to three. The largest is located on one of the Tres Marias group of islands, a short distance off the port of San Blas in the Territory of Tepic. These deposits are controlled by a Mexican syndicate which has California connections for the sale of its output, variously estimated at 30,000 to 40,000 tons per year. There is another deposit, the output from which is about half this amount, at the mouth of the Santiago River, also in the Territory of Tepic.

The deposit for which the new concession has been granted is said to present opportunities for an output even larger than that at Tres Marias. It is located south of both the older ones and is not far from Chanela Bay, which should insure splendid shipping facilities, as, excepting Manzanillo, it is considered the best natural harbor between Mazatlan and Acapulco.

CUBA.

NEARLY ALL THE SUPPLY FROM THE UNITED STATES.

A Baltimore request for information as to the salt industry in Cuba elicits the following response from Consul-General James L. Rodgers, at Habana:

There is practically no local production, except in the crudest way, and therefore it need not be taken into account. There is no prospect of any local industry beginning the manufacture of salt, and so far there have been no deposits of rock salt discovered. The importation in the fiscal year of 1907–8 was, in common salt, 24,671,473 pounds, of which the United States furnished 23,565,560 pounds, the bulk of the remainder coming from Spain. In prepared salt the total importation for the fiscal year named was 13,236,339 pounds, of which the United States furnished 12,406,933 pounds. The duty on common rock salt entering Cuba from the United States is 70 cents per 100 kilos (220 pounds), this being a 30 per cent reduction from the duty to the world at large. The prepared salt enters from the United States at 91 cents per 100 kilos, this enjoying also the 30 per cent reduction.

COAL MINING.

SCOTLAND.

NUMBER ENGAGED IN INDUSTRY—OUTPUT AND PRICES.

Consul Howard D. Van Sant, of Dunfermline, in submitting a report on the Scottish coal-mining industry, states that although American machinery and tools have not been introduced to any extent, it is claimed that some of the latest improved machinery, as used in the Pennsylvania mines, together with the newest patterns of tools and hardware, might find a market if well introduced. Regarding the industry he writes:

Out of a total population of about 5,000,000 in Scotland, more than 500,000 are directly or indirectly dependent on mining for their livelihood. There are 481 coal mines in operation, employing 125,898 persons, 2,684 of this number being females. In addition there are 65 mines producing iron stone, oil shale, and fire clay, which employ 5,508 hands, making a grand total of 131,406 persons directly employed in mining, besides the shopkeepers, tradesmen, school-teachers, and others equally dependent on the industry.

The total quantity of coal mined in 1908 (the latest statistics available) was 39,158,225 tons, which sold at the mines at an average price of $1.88 per ton. The retail price of the highest grade bituminous coal in this district is $4.86 per ton, an increase over a few years ago. While soft coal is found in almost inexhaustible quantities in Scotland, owing to competition elsewhere it is becoming increasingly difficult for the Scottish mine owners to find a ready market for their output, though this year's market seems an exception because of large orders from Sweden and Denmark.

The actual blasting of coal is done by miners who wedge and then blast it. Boys, called drawers, shovel the fallen coal into hutches and convey the latter to the main roadways, from which the hutches are taken by mechanical haulage or horses to the pit bottom and then sent up the shaft. Two men and a boy will mine five to ten tons per day, according to the thickness of the seam.

WORKING HOURS, WAGES, AND COST OF LIVING.

In recent years the miners' lot has been greatly improved, yet their wages and various comforts apparently do not equal those of the United States, to judge from the constant stream of emigration to America. Though this is true, there is in Scotland no class freer or whose hours are shorter. They have three shifts of eight hours each, and on notice are at liberty to take a holiday at will. In wages and shorter hours the constant agitation and untiring work of the Scottish Miners' Federation have helped to bring about better conditions. The new arrangement as to hours, the three-shift system, and better wages are, on the whole, likely to stand for five years at least. The minimum wages of the men are 6s. ($1.46) per day of eight hours, and the maximum 8s. ($1.92). As nearly every miner takes one holiday during a fortnight the weekly time will average less than forty-eight hours, and wages from $9 to $11 per week. On piece work active miners sometimes earn $15 per week, but the average is nearer $8 or $9.

Out of these wages must be paid rent ranging from $39 to $58 per year. In Dumfermline many miners prefer to pay the highest rent,

while at the mines are now furnished rows of two-room houses, usually with a sparsely furnished front room and a kitchen, yet a decided advance over the former living quarters. The rent charged for this class of houses runs from 73 to 97 cents per week, free of taxes. As to the general cost of living it is safe to say that clothing and rents are cheaper here than in the United States, meats are about the same, excepting pork and mutton, the former being more and the latter less in price; fish and bread are cheaper, while poultry, eggs, and provisions are higher. There is not the difference in cost of living that is usually supposed. It costs more for a miner to live in the United States, partly because prices, on an average, are higher, and partly because he demands more.

SOUTH AFRICA.

STEADY INCREASE IN THE STATE'S OUTPUT AND SALES.

Consul Edwin S. Cunningham, of Durban, reports as follows concerning coal mining in Natal:

The total output of the mines in 1909 amounted to 1,786,583 tons, valued at $3,003,433, an increase of 116,809 tons, but a decrease in value of $503,998, as compared with 1908, on account of the fall in price from $2.04 per ton in 1908 to $1.70 in 1909.

The over-sea exports, 404,322 tons, were considered unsatisfactory, taking into account the great consumption of coal at points nearer to Natal than to any other important coal fields. The greatest increase occurred in bunkers, chiefly tramp steamers running between Europe, America, and Australia; Port Durban being happily located to accommodate such vessels. In 1909 the cost of coal, trimmed in bunkers was $3.77, while in 1910 contracts are made at $3.52.

The average labor employed at the mines in 1909 consisted of 4,700 natives, 3,409 East Indians, and 431 Europeans. The mine owners are employing the Indians in increasing numbers, on account of the unreliability of the native labor; the latter, being free laborers, receive $7.40 per month and food; the Indians, indentured for five years, receive a graduated wage of from $2.90 to $3.90 per month, with food and lodging, which cost the mine owners about $2.20 per month.

MINING SUPPLIES IN SOUTH AFRICA.

BIG MARKET FOR STORES—THE METHOD OF PURCHASING.

Consul Edwin Gunsaulus, of Johannesburg, writes that the annual report of the Transvaal Mines Department for the year ended June 30, 1909, contains a statement of the quantity and value of stores consumed by the gold, diamond, and other mines during that period, which should prove instructive to exporters seeking trade in that section. He adds:

The list strikingly illustrates the vastness of the mining operations and the extent and diversity of the products required to maintain these operations for the brief period of a year. Except for the statistical year 1906–7, which was marked by general depression all over South Africa, there has been a constant and material increase each year in the quantity and value of stores consumed, the total value of which

for 1908–9 reached the sum of $49,569,623, to which total the Witwatersrand gold mines alone contributed $39,380,715.

In the classification of goods consumed, excepting coal, which is all of local or South African production and which is the largest single item, amounting in value to $6,081,187, may be mentioned the following: Machinery and machine tools, $5,322,081; cyanid, $1,998,170; pipes and pipe fittings, $1,623,079; electrical machinery, $1,467,030; candles, $1,186,794; rails, crossings, sleepers, etc., $1,013,122; brass and iron castings, $542,677. The goods embrace articles of a wide range and constitute a market which by reason of its concentration, importance in value, and immunity from loss is most desirable from every point of view, and is competed for by the leading manufacturers of the world. Machinery and tools, electrical machinery, and in fact, practically all of the supplies furnished to the mines, are purchased through local representatives or agencies, so that in order to share in this trade manufacturers must have some responsible agent on the spot to consult the specifications and personally conduct negotiations. [An itemized list of the stores consumed and their value is on file in the Bureau of Manufactures.]

NITRATE TRADE OF CHILE.

COMBINATION IS NOT BEING RENEWED—INCREASED OUTPUT.

In transmitting the following statistics covering the nitrate production of Chile, Consul Rea Hanna, of Iquique, reports that in consequence of low prices many of the manufactories are closed:

The present (March 17) prices of nitrate are $1.59 per quintal (101.61 pounds) for the 95 per cent product and $1.65 for the 96 per cent product, with 1 per cent salt, for immediate delivery free alongside ship. Of the 154 oficinas or nitrate manufactories in Chile, 55 are not being worked, 36 being closed before July 1, 1909, some for some time previously on account of having worked out their nitrate grounds, or the cost of production from various causes having been too high. The oficinas in which the cost of production is low are reported as being worked to their limit, taking advantage of the cessation of restrictions regarding production, at the discontinuance of the nitrate combination.

The opinions regarding the renewal of the combination are contradictory, and although strong efforts in its favor are being continually made by those whose cost of production is high, there does not appear to be any immediate prospect for a new combination. The amount of nitrate produced in the different Pampas is given by the Asociación Salitrera de Propaganda, in quintals, as follows, during the eight months ending February 28, 1909 and 1910:

Place of production.	1909.	1910.	Place of production.	1909.	1910.
Tarapacu	13,033,790	16,756,891	Aguas Blancas	2,568,805	2,595,640
Tocopilla	2,104,400	4,167,020	Taltal	3,838,832	4,349,547
Antofagasta	5,407,899	6,843,385			
			Total	26,953,726	34,712,483

[The annual report of Consul Alfred A. Winslow, of Valparaiso, states that the Chilean shipments of nitrate to the United States during 1909 were valued at $18,769,236, against $14,765,250 in 1908,

and $16,899,723 in 1907. The basic value of the importations of Chilean nitrate of soda into the United States last year, according to customs statistics, was about $31 per long ton, against $36.50 in 1908, and $40 in 1907.—B. of M.]

COPPER TRADE REVIEW.

GERMAN PRODUCTION AND CONSUMPTION—NEW COMPANIES.

The following review of the world's copper trade for last year is condensed from the annual report of a German authority by Consul-General Richard Guenther, of Frankfort:

Last year 194,449 metric tons (of 2,204.6 pounds each) of copper were consumed in Germany, about 5,000 tons over 1908. About 90,000 tons were used for electrical installation, 38,000 for manufacturing plates, bars, and tubing, 41,000 for making brass, 2,000 by chemical factories, and about 23,000 by shipyards, railroads, and for copper fittings and armatures. Germany produced 31,009 tons of copper, including that made from imported ores and scraps. The world's production of copper in 1909 is estimated at 834,940 English tons, in which the following countries were the principal participants: United States, 487,020; Mexico, 56,250 tons; Spain and Portugal, 53,000 tons; Japan, 45,000 tons; Australia, 38,350 tons; Chile, 35,800 tons; Germany, 23,500 tons.

[A report from Consul-General Robert P. Skinner, at Hamburg, says that only one German company exports copper ore on a commercial scale, and has made several large shipments to the United States. Mr. Skinner gives a list of copper-mining companies, including those opening or preparing to open mines in Southwest Africa. These addresses may be secured from the Bureau of Manufactures.]

NORWEGIAN KIESELGUHR.

SAID TO BE FIREPROOF, SOUNDPROOF, AND FROSTPROOF.

Consul P. E. Taylor, of Stavanger, furnishes the following information concerning the kieselguhr deposits near that Norwegian port:

Considerable attention is now being drawn to the kieselguhr deposits, 12 miles from Stavanger, on account of the plans under way for the enlargement of the works for the preparation of the product for the market. Kieselguhr is of fossil formation, composed of siliceous skeletons of minute animal and vegetable life in the water, and lies on the rock at the bottom of the lakes. It is claimed to be proof against fire, acids, frost, and vermin. A firm of Liverpool engineers and geologists has recently examined these deposits and report 200,000 to 300,000 tons of dry guhr available for use. The output thus far has been only about 1,000 tons per annum, the greater portion being used in Norway as lining for floors, ceilings, and partitions in dwellings, as protection against cold, the remainder going to England. The deposits here are said to closely resemble those of Hanover, Germany. [A report on the Hanover deposits—manufacture, character, and uses—which applies equally to the Norwegian product, was published in Daily Consular and Trade Reports for April 22, 1908.]

TEXTILES.

WOOL TRADE.

AUSTRALIA.

PLANS TO ELIMINATE FOREIGN MATTER AND COMBUSTION.

Considerable attention being now paid in Australia to improvement in methods of packing wool, to exclude vegetable fibers and twine, which decrease its value, Vice-Consul-General Henry D. Baker, of Sydney, discusses the measures undertaken:

It is also desired by the use of more scientific packing appliances to decrease the labor cost of producing and exporting wool, and to lessen the chances of spontaneous combustion in wool cargoes.

Special consideration was directed to the subject of packing, when, at a recent conference held at Bradford, England, of wool growers, manufacturers, and wool brokers, it was pointed out with particular emphasis by manufacturers that the presence of vegetable fibers and large quantities of twine in the wool entailed considerable expenditure in the cost of manufacture. They found it almost impossible to separate the vegetable fibers from the raw material, and in many instances it was found in the manufactured material, notwithstanding the devices used in removing it. During the Bradford conference it was estimated that the cost of labor, as well as damage to the goods in the made-up article on this account, amounted to about $1,215,000 per annum, and it was urged that measures should be taken to obviate the trouble. It was shown that the difficulties arose first of all at the seat of production, where growers used faulty packs in baling the wool. Again, in the warehouse where the wool was opened in the showrooms for inspection, and afterwards in repacking, and finally in again being opened at the factory, there was an endless chain of opportunities for twine and jute to mix with the wool. No practical solution of the difficulties came from the Bradford conference.

NEW METHOD.

One of the largest wool export houses of Australia has devised a new process of packing and heading the bales, which prevents twine from entering the wool. The demonstrations of the new process seem to have won the approval of the trade both in Australia and at Bradford. The equipment necessary for the new process is now obtainable by all pastoralists and exporters desirous of using it, and its popularity seems to be gaining steadily. The demonstration of this new process has been one of the most interesting and closely noticed features of recent agricultural shows in Australia.

In packing wool by this new process, packs with prepared heads and loose tops must be used for the purpose. The pack and the

loose head are placed in the wool press in the usual way, the packs being cut down 15 inches from the top. No further cutting is required. After the bale is pressed the front and back flaps are thrown temporarily over the bale, and the head is then firmly secured to the bale by two steel skewers, both front and back, at the same position as the stitching is done under the old system. While the bale is in this position it is not necessary to cut down the four corners, even when they project considerably, as when the skewers are released the corners fill up and form a stiff, even surface, making a package much superior to the old bale. The front and back flaps are tacked together in two places across the top of the bale about 8 inches from each side. The side flaps are then brought the usual way, tacked, and lock-stitched, and the skewers may then be released from the bale.

The chief feature of this process is that no twine or string can possibly enter the bale, the only stitching necessary being on the two outside flaps. There is also a great saving of twine, as nine bales can be treated with the same quantity of twine which, under the old system, was used on one bale. Another important feature is that by simply cutting the stitching on two outside flaps the bale is ready for inspection by the wool valuers and buyers. [The name of the Australian firm handling this equipment may be obtained from the Bureau of Manufactures.]

SPONTANEOUS COMBUSTION IN WOOL FIBER.

The subject of spontaneous combustion in wool and vegetable fibers in ship cargoes has for a number of years been under close investigation by Prof. J. Park, director of the Otago University School of Mines, in New Zealand. In investigating fires on wool ships he has followed wool from the sheep's back to the "dumping" presses, having during the last three years assisted in handling over 25,000 sheep, and having watched closely, not only the yarding and shedding of sheep and the shearing and baling of the wool, but also the loading and draying of wool bales to the shipping ports, and carefully scrutinized the pressing operations. He states that as the result of his observation he is satisfied that the cause of spontaneous ignition is in the pressing process. He explains that his experience with air compressors and compressed air in connection with mining operations, and the serious results accruing from the thermal effects of compressed air, lead him to the conclusion that combustion is caused by heat generated and by compressing the air entangled in wool and contained in the bales during the pressing process.

In discussing the question of a remedy, Professor Park makes the following interesting observations and suggestions:

So long as wool is pressed by the present process it will always contain latent elements of spontaneous heating and ignition. I therefore propose, in order to remove the inciting cause, that pressing shall be performed in a vacuum cylinder or chamber; that is, that a hydraulic press, whether single or double, be inclosed in a vacuum cylinder provided with an air-tight door. To the vacuum cylinder there is attached a vacuum pump, provided with a vacuum gage. The intention is to displace the air contained in wool bales before pressing. The chief advantage claimed for the vacuum pressing process, as to which all other advantages are subordinate, is the removal of the inciting cause to spontaneous ignition where a large amount of pressing is carried on. The work can be conducted as expeditiously as at present, provided duplicate vacuum presses are used. Thus, while the vacuum is being made in one press, the other can be charged and prepared for air pressing. The vacuum pump can be placed in the engine room under the eye of the engine driver. Two or more presses

can be connected with the vacuum cylinder in which the vacuum is maintained by an air pump. I am satisfied that the adoption of the vacuum pressing will remove a source of danger to life and property that is always imminent in wool ships, and I am further satisfied that the time will come when vacuum pressing will be universally adopted for all wool, flax, tow, and combustible animal and vegetable fibers.

AUSTRALIA.

FINE CLOTHING WOOLS FOR AMERICAN MILLS.

The import into the United States of wool for clothing purposes greatly increased last year, reaching 143,801,339 pounds, valued at $31,168,481, or more than double the imports in 1908, and even 50 per cent higher than in 1907. The direct imports of this wool from Australia last year were 35,177,946 pounds, worth $8,697,451. American buyers participated in Australasian wool auction sales to an extent that they had not hitherto. Consul Henry D. Baker has already noted that they purchased one-fifth of the 17,000 bales sold at Hobart early in January, the value of such purchases being over $200,000. Shipments of New Zealand wool to the United States also advanced, according to consular invoices, from $265,686 in 1908 to $1,467,132 in 1909. The heavy import of clothing wool continues in 1910, the value for the first four months having been $18,275,178, against $15,858,807 in the same period of 1908, and $5,627,462 in the 1907 period.

Stating that Tasmanian wool has the reputation of being the finest in the world in quality, Consul Baker has forwarded from Hobart 33 samples of lots from the wool auction there in January, together with the prices realized. These samples were supplied by A. G. Webster & Son, and they may be seen by textile men who communicate with the Bureau of Manufactures.

STUDENTS OF WOOL INDUSTRY.

AUSTRALIAN COLLEGE GIVES SPECIAL TRAINING IN SHEEP AND FLEECE.

In announcing that the Sydney Technical College (an Australian state government institution) has opened a department for special instruction in the wool and sheep industry, Vice-Consul-General Henry D. Baker explains its curriculum:

The course of instruction includes sheep classing, sheep judging, wool sorting, wool classing, preparing wool for the market, yields of wool, valuation of wool, uses and qualities of wool, scouring wool, fellmongering skins, shearing-shed work, and wool-trade usages.

The method of training the students in this industry is most useful and practical. It is framed to fit them to undertake the classification, skirting, rolling of fleeces, and sorting skirts or pieces to the best advantage to the grower, and also to meet the demands of the buyers. As the practical work advances, lectures on all subjects relating to the growing of wool and its suitability for manufacturing purposes are given. Advantage is taken of the Sydney wool sales to get students acquainted with the general routine of the wool business, and how wool should be prepared to suit the requirements of the various nations which import supplies from Australia.

Instruction begins the first week in February and terminates on July 31, at the time of the Sydney sheep show and stud sheep sales.

These two events afford valuable opportunities for study, and serve as finishing lessons to those students who intend adopting station life as a profession. After the term expires students who have obtained their professional certificates in wool classing and have had sufficient shed experience may be recommended as wool classers and sorters. Other students who have been industrious and are desirous of going on to stations to gain shed experience at the wool tables are recommended to squatters to skirt-roll fleeces and sort pieces.

Unskirted and unclassed wools are purchased from time to time in order to give experience in classing and sorting, and, to students who intend to take up station life, a thorough knowledge of skirting, rolling, and making up the fleeces in the best marketable styles. Arrangements are made with smaller wool growers or agents to send such lots to the college for classification, the wools classed under this arrangement bearing the college stamp. Sheep classing is also taught, after the knowledge necessary for sheep classing has already been imparted, by study of the wool. Visits are made for this purpose to the sheep-sale yards and meat-preserving works under superintendence of an expert lecturer.

During shearing time the students handle sheep and wool in the sheds. Instruction is given in scientific examination of wool, including use of the microscope, the action of reagents, the structure and appearance of hair follicles and their growth, and the effects of dyeing, dipping compounds, scouring, "carbonization," climate, food, etc.

Some classes have also been formed for training machine sheep-shearing experts to meet the needs of station owners and managers. The instruction includes work in elementary sheet-metal working, sanitary engineering, blacksmithing, carpentry, and fitting and turning. A plant consisting of the most modern sheep-shearing machines, run by oil engines, is installed in the college premises. This course is complete in two sessions, each of six months. There is also a class for instruction in sheep shearing only, which is completed in one term of two months duration. The object of this class is to give young men the opportunity of obtaining a sound, practical knowledge of shearing. Various types of machines are provided for this class. The instruction in classing and sorting wool covers two years, for which diplomas are given.

ASIATIC TURKEY.

INCREASING SHIPMENTS TO AMERICAN CARPET MILLS.

The renewed activity in American carpet factories is indicated by the heavier importation of wool for this purpose, amounting last year to 136,220,511 pounds, worth $16,706,728, or more than double that imported in 1908. The increased importation has continued in 1910, amounting in the first four months to $5,203,876 worth, against $4,827,022 in the same period in 1909, and $1,993,843 in the 1908 period. China furnished $4,000,000 worth of the carpet wool imported by the United States during 1909. Large quantities also came from Asiatic Turkey, the declared exports through the various American consulates aggregating $1,514,703, divided as follows: Aleppo, $513,059 (against only $185,268 in 1908); Bagdad, $449,555; Beirut, $401,636 (only $121,325 in 1908); Smyrna, $119,353; Samsoun, $17,216; Mersine, $13,884. The total shipments were three times as large as those in 1908. The following detailed re-

port of this trade at Bagdad is furnished by Consul Frederick Simpich:

In 1909 Bagdad sent $449,554 worth of wool to America, against $237,655 worth in 1908. The average price per bale of 340 pounds last year was $50. Wool is also shipped to England and France in large quantities. The total amount exported in 1909 was about $1,650,000, according to merchants' estimates. Exact figures are hard to obtain in Bagdad, because few public records are kept. The three kinds of wool sold from this market are "Arab," Awassi, and Karadi (Kurdish).

Arab wool is clipped from sheep grown on the flat plains of Mesopotamia. It is the finest in quality, and brings a better price than the other kinds. It is of a fine, "crinkly" fiber, and has a bright appearance. Arab wool goes mostly to the Continent and England, being shipped from here to Trieste, Marseilles, Hamburg, and London. In 1906 about 300 bales was shipped to Japan, but no repeat orders have come from there. In Europe this Arab wool is used mainly in the manufacture of blankets and the coarser woolen textures. It is estimated that a minimum of 11,000 bales (of 340 pounds each) leaves the Tigris towns of Kut and Amara, and Bagdad, for Europe each year.

A wassi wool is named for a nomad tribe, the "Aweiz," who live on the plains and highlands between Aleppo and Mossul. A fiction says the word is derived from the Arabic term "awas," meaning soft. This wool probably originates from a crossing of the Kurdish hill sheep and the animals owned by the nomad Arabs of the plains. Its fiber seems coarser than Arabic, but finer than the Kurdish. Approximately 6,000 bales of Awassi wool is sent out each year from this district, most of which goes to America. I am told it is used in the States mostly for the manufacture of carpets and coarser worsteds. Nearly all the Awassi wool sold from the Bagdad market is grown on the steppes north of the city. Its colors are mainly fawn, piebald, and dark brown. From 16 to 25 per cent of Awassi wool clips are colors, the rest turning out white on washing.

Karadi wool comes from the sheep of the Kurdish hills about Mossul and on the Persian frontier. About 11,000 bales of Karadi wool is exported annually from Bagdad, and nearly 80 per cent of this goes to America. I am told it is used largely in the manufacture of carpets. It shows about the same proportion of colors as the Awassi—that is, from 16 to 25 per cent.

Wool is sold in Bagdad by the "maund," equal to 12½ Constantinople "okes," or 35.375 pounds. Quotations are in beshlicks (equal to 22 cents). Prices on April 5, 1910, per pound, were: Medium washed Arab, 11¼ to 12⅜ cents; unwashed Awassi, 10¼ to 10⅝ cents; unwashed Karadi, 9⅜ to 10¼ cents.

Power presses are used at Bagdad for baling wool, all of which comes in—by caravan or Tigris River raft—in the form of "sheleefs" or fleeces packed by hand in great bags and weighing about 250 pounds. Arab wool is usually washed on the sheep's back. Karadi and Awassi wool, however, nearly always comes to market dirty. In washing it loses from 15 to 35 per cent in weight, according to the thoroughness of the wash and the extent to which dirt and extraneous matter is present in the wool.

Spring rains and a warm winter indicate a heavy wool clip for all eastern Arabia in the current season.

WASTE SILK YARNS.

THE SPINNING INDUSTRIES OF ENGLAND AND THE CONTINENT.

Consul Augustus E. Ingram, of Bradford, England, furnishes the following information concerning the utilization of waste silk:

Of all the silk spun by the silkworm it is stated that more than one-half is useless for the throwing process. An authority gives the different classes of waste silk as follows: (1) Silk spun by the worm to attach itself, in the wild state, to twigs or leaves of trees, and in the domestic state to straws used by the peasants, which is coarse and mixed with leaves and straw, dull and lusterless, and called wadding or blaze; (2) silk of the outer layer of the cocoon, also coarse and uneven; (3) the last layers of the cocoon, too fine to be reeled; (4) many cocoons, particularly those that have been pierced; (5) waste occasioned by reeling and rereeling and during the throwing.

The varieties of waste are as follows: (1) Steam or Canton filature waste, opened or unopened; the opened being subject to adulteration, the unopened is now preferred; there are several qualities of this steam waste; (2) tussah, exported from Shanghai, known as Shanghai tussah waste and filature waste, of two grades, and the throwsters' tussah waste, made during the process of throwing tussah raws. The spun or silk waste spinning industry is said to be the most active branch of the silk industry in this country. It is carried on chiefly in Brighouse, Bradford, Macclesfield, Leek, Congleton, and Galgate, Brighouse being considered the center of the industry. Competition from the Continent, aided by tariff protection and bounties, has, however, been a serious factor for the English spinners.

WORLD'S OUTPUT—SCHAPPE YARNS.

A few years ago, according to an authority, the world's production of silk yarns was estimated at 15,500,000 pounds, viz, the Continent, 11,000,000; England, 3,000,000; China, Japan, America, and India, 1,500,000. On an average, 3 pounds of waste are required for each pound of yarn produced, taking into account all qualities produced, some of which are very coarse. The total quantity of waste silk consumed per year must amount to some 45,000,000 pounds, and the value of the world's production of yarns, at, say, $1.58 per pound, would be nearly $24,000,000.

The Continental spinners, who largely produce the schappe yarn, are more successful in its production in recent years, owing to their process of schapping the silk waste, freeing it from a certain amount of its natural gum or serecin by steeping the waste until it ferments, thereby dissolving the gum. The smell and effluent are so offensive, however, that the process is prohibited in England, where the gum is dissolved by boiling. Schappe yarn is said to retain 2 to 15 per cent of the natural gum, which gives the fiber a resistance, enabling it to be dressed on a circular frame, which, according to an expert, economizes in the dressing to the extent of 8 cents per pound on an average, the labor cost in England being about 16 cents per pound. The water used in degumming the silk is of considerable importance. It should be very soft and free from iron and other substances that might discolor the silk or decompose the soap used.

As illustrating the growth of the silk industry in the United States, it may be stated that the exports from this district thereto of silk seals, plushes, velvets, etc., which had reached their maximum in 1888, viz, $2,603,204, amounted to only $11,376 in 1909. The exports of silk yarn in 1909, however, amounted to $557,957. During the six months ending March 31, 1910, the demand from the United States for tussah yarns, 2-ply 20s being the count most frequently ordered, for the manufacture, it is believed here, of silk plushes, etc., has been so great that prices have risen from 85 cents to $1.34 and $1.58 per pound, less the customary discount of at least 2½ per cent. The prices of white schappe yarn have not risen in proportion.

Silk waste is imported into England chiefly from Shanghai, Canton, and Yokohama in pressed bales of from 112 to 560 pounds each.

The tussah filature waste normally sells here at about 16 cents per pound. However, owing to heavy demands, April prices were 40 cents. Steam waste, used for white silk yarns, usually sells at about 49 cents per pound. These prices are net. Tussah yarn, taking 2-ply 20s as most in demand for pile fabrics, normally sells at 79 to 85 cents per pound, but was quoted in April at $1.58. As this brings the yarn over the dollar limit, American buyers are holding off purchases. The typical count of 2-ply 60s white silk spun yarn sells ordinarily at about $2.07 per pound. These prices are subject to discounts of 2½ to 5 per cent.

PREPARATION FOR SPINNING.

The raw-silk waste, in its matted condition, is washed, mangled, and then dried, the drying process taking from three or four days to two weeks. It then goes to the dressing department, where it is passed through an opening machine (filling engine), and, as it comes out onto a drum, after having undergone a rough combing or straightening process, the wide band of silk encircling the drum is cut into lengths of, say, 12 inches. These lengths are then each placed in a flat wooden holder, half the length of the silk projecting. These wooden boards are, in turn, placed in the bed underneath a flat dressing or combing machine. The combs are attached to a wide band, which is adjusted so as to gradually just touch the silk, and in this way the first draft of the longest fibers of the silk is obtained and removed from the combs. The holders in the bed are then reversed so that the portion of the silk in the wooden holders can likewise be combed and the first draft taken. The holders are then removed to another flat dressing frame and the second draft, fibers of shorter length, obtained; and so on to the third frame, or fourth, if there be one, in order that the draft from such frame may be obtained. The residue, of course, constitutes the noils. The silk is then taken to the preparing department, where, before going to the roving machines, it passes through spreading machines. At this point various drafts of silk are blended, which regulates the qualities. Spinning and doubling the silk yarn is similar to other textile industries, the processes being well known.

The yarn, being often rough and fuzzy, has to have the projecting fibers removed by means of heat—lighted gas and friction. The machines used are the gassing frames (each thread of silk passing

through a gaslight) and the cleaning or frictioning machines. The process of gassing causes some loss in weight of the yarn, as is shown in part by the large quantities of burnt silk fluff given off, but gassing and cleaning add greatly to the luster of the yarn. [A list of Lancashire, Yorkshire, and Cheshire silk spinners, a catalogue of a leading manufacturer of textile machinery of all kinds, and an estimate of the cost of a plant to dress and prepare 500 pounds of waste silk yarn per day, transmitted by Consul Ingram, may be consulted at the Bureau of Manufactures.]

IRISH LINEN INDUSTRY.

AN IMPORTANT MANUFACTURING INTEREST—HAND WEAVING.

In giving the estimate that $70,000,000 is invested in the linen industry in Ireland, Consul Henry S. Culver, of Cork, gives some details:

There are 935,000 spindles and 36,000 power looms; 70,382 people are employed, whose annual wages amount to $16,500,000. The business is in the hands of 50 different companies, of which 17 are in Belfast, 1 in Cork, and the rest scattered throughout the island. As showing the development of the industry in Ireland it is ascertained that to-day England has only 50,000 spindles and Scotland 160,000, whereas fifty years ago the three countries had about the same number, viz, 350,000 spindles each.

An effort is being made to revive the hand weaving of damasks, cambrics, and diapers, which has fallen to so low an ebb through the use of power looms, and to that end the Hand-Loom Weavers' Protection Act was enacted by Parliament, which came into effect in January last [the provisions of which were published several months ago in Consular and Trade Reports]. The introduction in late years of the "linen-mesh underwear" has greatly stimulated the industry, and as the therapeutic properties of linen become better known and recognized the industry must rapidly develop.

OVER HALF THE OUTPUT IS SOLD TO AMERICANS.

The export of linen-woven goods from Great Britain and Ireland last year, compared with the two previous years, was as follows (about 80 per cent of the exports to the United States being from Belfast):

Country.	1907.		1908.		1909.	
	Yards.	*Value.*	*Yards.*	*Value.*	*Yards.*	*Value.*
United States	107,201,000	$14,499,679	83,358,300	$10,339,093	140,050,500	$16,235,763
Argentina	2,577,100	632,806	4,497,400	938,480	5,074,500	835,875
Australia	11,725,900	1,843,771	10,839,800	1,598,991	14,009,100	1,989,834
British East Indies	4,797,200	817,767	5,614,400	840,387	4,207,600	635,672
Canada	13,373,000	1,524,597	8,872,400	953,679	15,219,900	1,502,692
Cuba	8,419,000	1,134,289	8,574,800	1,096,248	11,203,700	1,273,427
Other countries	86,905,900	6,444,137	30,136,800	4,989,136	84,193,100	5,406,901
Total	184,999,100	26,897,046	151,893,900	20,756,014	223,958,400	27,880,164

The total values of exports were made up as follows: 1907, 1908, and 1909, plain, unbleached, or bleached goods, $23,522,259, $17,502,734, and $23,887,206, respectively; checked, printed, or dyed, and damasks or diapers, $2,269,638, $2,262,801, and $3,204,984; sailcloth, $1,105,149, $990,479, and $787,974.

MATTING INDUSTRY IN CHINA.

THE METHOD OF GROWING, MANUFACTURING, AND EXPORTING.

In connection with the present experiments to establish in the United States the reed-growing industry, for making mattings, which may lead to a curtailment of the annual importation of about 50,000,000 square yards, the following report from Vice-Consul-General Myrl S. Myers, of Canton, will prove of interest:

In certain districts in Southern China the matting industry is the chief means of livelihood for many people, especially in the districts of Tung Kun and Lintan. The straw seed is planted in sheltered spots in November and transplanted about the end of January or beginning of February into fields previously covered with several inches of water. The fields are frequently irrigated and carefully cultivated until harvest time, which is July for the common grades of straw and August for the better. The straw varies from 5 to 7 feet in height. When harvested the three-cornered reed is split and laid out in the sun to dry. This work is usually done by women and children. When the straw is dry it is tied up into bundles of one picul (133⅓ pounds) each and sold in the open market at various prices, based on demand. The dealers usually buy their straw for the whole season's business, store it in godowns, and dispose of it on demand. For manufacture into matting it is carefully assorted for quality and size. Straw selected for dyeing is generally of the poorer quality, as its defects do not show up after the process.

The loom commonly used is made of two timber uprights, with a crossbar above and a roller below. The machine is a very crude one and does not allow of variety in weaves, as does the Jacquard. The Chinese interpretation of the latter is a very crude machine. Instead of using cards, such as the Jacquard has, a Chinese sits above the loom and pulls the strings, which are tied to the warp to make the pattern. The regularity of the weave depends upon the eye of the operator, and warps are often missed. These looms require three operators—the feeder, the weaver, and the string man. Female labor is never employed in this process. In fact, female and child labor are used only in weaving the very lowest grade of matting. Before weaving the straw is dampened to make it pliable, and this necessitates drying immediately after the weaving is completed. There are generally drying grounds, covering large areas near the godowns.

WHERE GOODS FOR AMERICA ARE MADE.

In Tung Kun the patterns are given to weavers, who furnish their own straw, and as soon as a roll of matting is completed (which takes two men four days to do) they take it to the market and sell it at the price agreed upon, or, if they can do better, they will sell it to another dealer, who wishes the same pattern and is willing to pay a higher price for it. This is one of the causes of fluctuation in the price of Chinese matting. As soon as there is the slightest demand above the average the dealers raise their prices. Before the dealer takes delivery of the matting it is examined by an inspector, and if deemed of suitable quality is accepted and stored in godowns. It is then packed and sent to Canton or stored in Tung Kun until wanted by a buyer. Most of the matting used in the United States comes

from the Tung Kun district, whence it is sent to Canton for inspection by the foreign exporter before shipment.

The better quality of matting comes from the Lintan district, about 200 miles to the west of Canton, but as this district does not grow sufficient straw to meet the demand, the deficiency is met by importation from other districts. It is the custom in this district for the native dealers to employ weavers, and after the straw has been woven into matting it is stored in godowns ready for shipment.

AMERICAN COTTONS IN CHINA.

DIRECT TRADE WITH NATIVE MERCHANTS IN THE INTERIOR ADVOCATED.

Consul John Fowler, of Chefoo, furnishes the following information concerning what American manufacturers must do to maintain their cotton trade in China proper as well as in Manchuria:

The necessity of the American cotton-goods trade dealing direct with the native merchants in the interior and not through commission houses that maintain offices only at Shanghai, as advocated by this office, is fully sustained by a document issued recently by a foreign commercial association of Manchuria, which is herewith transmitted. It conclusively proves the necessity of the prominent cotton manufacturers of the United States sending practical and energetic men to study the situation in Manchuria and China proper, with power to make arrangements with local foreign and Chinese firms after the manner of the British-American Tobacco Company and the Standard Oil Company of New York.

While Manchuria is not in the Chefoo consular district, whatever concerns that territory has considerable effect upon this, and while ten years ago American cotton goods predominated in Manchuria, Japanese cottons exerting no appreciable influence, this American trade will become extinct within a few years if no change is made. American merchants can compete only with difficulty against Japanese in Manchuria; but while they are watching opportunities in Manchuria they should remember that the population of Manchuria is not half as large as the population in this one province of China proper, Shantung. No serious effort is apparently being made in this and the other provinces in China proper for trade in this particular line.

Dalny should not be made the only storehouse for American goods. Chefoo is but 80 miles from Dalny, and offers good opportunities for our merchants, for with the latter port as a distributing point American goods would enter a still wider field. Newchwang, too, has points of vantage in a commercial sense which compare favorably with those of both Dalny and Chefoo.

COTTON-GOODS TRADE OF MANCHURIA.

The following is the bulletin issued by the Foreign Commercial Association of Manchuria, dated Dalny, March 4, 1910:

The Japanese exporters have recently been endeavoring to sell sheetings, shirtings, and drills all over Manchuria, and the leading large spinning companies in Japan are acting in concert with the Japanese exporters. They have nominated the Mitsui Bussan Kaisha, which has branches in every district in Manchuria and is doing a very extensive trade, as sole agents and have intrusted the company with consignment sales. Furthermore, they have concluded a special contract with the banks, and, as a result, the losses caused by remittance of payments have been reduced to a minimum. At the same time they

are enjoying special monetary facilities, as the banks advance all the money necessary for their trade at a low rate of interest, so that Chinese merchants in the interior who want small quantities of sheetings and shirtings can purchase Japanese goods at very cheap rates.

They can also inspect the goods they require and can get them on the spot. On the other hand, when the Chinese merchants want to purchase American goods, they have to send their orders to the merchants in Newchwang, to whom they must pay commission, and, in addition, they must bear the expense of remittance, owing to the state of currency in Manchuria. The merchants in Newchwang do not secure their goods direct from the manufacturers in America, but through the medium of the importers in Shanghai, so that the price demanded includes commission and charges for forwarding, and, accordingly, by the time the goods come into the hands of the Chinese merchant in the interior, the price is much higher than that of the Japanese goods. This being the case, the American merchants engaging in the export trade in China can only outdo their competitors by making their way into the interior. The American manufacturers must nominate an agent who has a thorough knowledge of the trade with China and establish an agency at Changchun, which is the commercial center of the Tungsansheng (three eastern) provinces, as Newchwang, Dalny, Mukden, Liaoyang, Hsinmintun, Kirin, Tsitsihar, Antung, and Kaichung, are within a day's run from Changchun. There is a very pressing need to place small quantities of cotton goods, which are in demand amongst the Chinese consumers in Changchun, under direct supervision of an agent and, at the same time, to make arrangements with a reliable firm at Dalny with regard to the storage of large quantities.

If the American dealers engaging in the export of cotton goods wish to maintain their position in the China market and to develop their business, they must abandon entirely the methods which they have adopted up to the present time and carry out a radical reform.

NOTTINGHAM HOSIERY INDUSTRY.

LARGE EXPORTS TO CANADA AND THE CAUSE THEREOF.

In furnishing the following information on the hosiery trade at Nottingham, England, Consul Frank W. Mahin draws attention to the fact that the term hosiery now includes all knit goods, underwear, blouses, sweaters, wraps, caps, gloves, mittens, etc., as well as socks and stockings:

The exports of hosiery from Nottingham to Canada in 1909 reached what was considered high-water mark, but contracts for hosiery just received there, to be delivered next autumn, double the quantities, in most cases, of last year's shipments. The orders just received cover a wide range of heavy woolen goods, both plain and fancy. The principal cause for these large orders was the threatened disagreement between the Dominion and the United States over tariff rates, which was expected to close the Canadian market to American hosiery or to increase their price, to which may be added the recent great progress made in the Nottingham industry. Besides the enlarged trade with Canada, the trade with Australia and South Africa has also expanded. Trade with the United States, however, shows no improvement, and the Nottingham hosiers seem hopeless of the future in that direction. The declared exports of hosiery and underwear to the United States in 1909 amounted to $167,904.

It is said that a Leicester hosiery machine company recently equipped a large plant in Canada requiring several hundred skilled female operatives, but that efforts, by liberal wages, to secure these have utterly failed, most of the workers here being now in receipt of wages equal to those offered by Canada.

RUGS FROM THE ORIENT.

AMERICAN PURCHASES OF PERSIAN GOODS—THEIR MANUFACTURE.

There was invoiced to the United States last year Persian rugs and carpets to the value of $349,129 from Smyrna, $3,137,015 from Constantinople, and $143,392 from Bagdad. This trade shows considerable growth and American buyers travel through Asiatic Turkey and Persia personally selecting many of these floor coverings. The following descriptive article on Persian rugs by Consul Frederick Simpich, of Bagdad, gives some interesting details:

The shipments from Bagdad to the United States were more than for five years previous, though the supply of real antique Persian rugs is diminishing fast. About $850,000 worth of rugs came to Bagdad from Persia in 1909, of which less than one-fourth were old. Nearly all the genuine antiques, however, go to America. Shiraz, Hamadan, Tabriz, Kermansha, Bokhara, Kulyahi, and Sina are the kinds of carpets mostly sent to the United States. The local prices paid for such rugs range from $2.60 to $3.70 per square meter for ordinary quality, $4.40 to $6 for better grades, and $8.80 and upward for extra fine antiques, all depending on age, quality, and condition.

Cheap rugs, aniline dyed, in imitation of ancient patterns, are now manufactured in large numbers by a foreign firm at Sultanabad for export to Europe. They sell for much less than real Persian handmade carpets, and are readily detected by rubbing with a moistened cloth, which reveals the aniline dyes by leaving a stain on the cloth.

PERSIAN RUG MAKING.

Every district in Persia has its own style and design of rugs; yet the mere name is no guide to quality, as good and bad rugs are turned out in all districts. It is not easy to distinguish one rug from another by word description, but a feature of the Shiraz, Koordistan, Jaff, Kulyahi, etc., is that they are woven wholly of wool, while the Hamadan, Sina, Sultanabad, and Ferahan are made partly of cotton. The dominant color of all Shiraz rugs and carpets is red, while the Bijars are blue and marine.

The choicest rugs are woven in silk and wool, and come largely from Kerman, Persia. Many ancient patterns, products of early Mohammedan days, as well as conventional flower designs, are seen. The color blendings are exquisite. These silk rugs are usually about 4½ by 7 feet, and are measured by the native "zar," a square measure of 20 by 40 inches. Sixteen stitches per inch are usually woven in the manufacture of rugs and carpets for export, though Persian rug fanciers insist on a finer weave. About 1,000 looms are operated by hand in Kerman, where the price for the better quality of carpets is nearly $5 a "zar." The estimated annual output of woolen rugs in Kerman is $200,000. The silk carpets of Kerman sell locally for about three times the price of woolen carpets, and in Cairo one silk rug from Kerman has been known to bring $500.

Small boys, working two or three at a time under a master weaver, turn out these valuable rugs. The master reads the pattern aloud to them, which they recite or repeat after him as they work. These formulæ contain many words now obsolete.

The "shal" of Kerman—whence our word "shawl"—is made of goat's hair. Like the carpets, the shawl patterns are learned by

heart, and the work is even finer. Children also do this work. It is estimated that Kerman turns out $300,000 worth of shawls, hand-made, a year. The finest product is a fir-cone pattern, a rich color effect, made especially for the governor of the province, who wears it as a robe of honor on the Persian New Year's Day.

COTTON GOODS IN PORTO RICO.

PECULIARITIES OF THE TRADE—HINTS FOR LAUNDRYMEN.

Commercial Agent John M. Turner writes as follows concerning the trade in cotton piece goods in Porto Rico:

Imports into Porto Rico for 1909 of cotton cloth manufactured in the United States aggregated 44,154,620 yards, valued at $2,451,642, and the value of other cotton goods was $1,230,682, making a total of $3,682,324. Imports of all classes of cotton goods from other countries were valued roundly at $68,000.

In a population of a little over 1,000,000 it is quite safe to say that every person above the age of 2 years wears cotton cloth goods all the time. The figures given above show that very nearly all of this material comes from the United States. Light material, offering a cool covering, is required, and when the designs are bright and attractive the sale of the goods is materially assisted.

Importers frequently visit New York, and possibly other American cities, to make their selections, and salesmen from American factories and commission houses frequently call on importers here with samples. Importations are made continuously, as the season here is the year around. There is a large demand for fine goods. Porto Rican ladies wear the finest wash material, and price is not so much a factor as an attractive design.

Much drawn work and fancy embroidery is made on the island, from which the yokes and trimming are selected, and it is not at all unusual to see ladies clad in wash dresses costing quite as much as tailor-made gowns would cost in the United States. There is a very large trade in medium and cheap grade goods for the colored population, as they are very liberal buyers.

There are many importers with large capital and excellent credit in the island. In this branch losses are seldom made, and failures of dry goods importing houses rarely occur.

EXCELLENCE OF PRIMITIVE LAUNDRY WORK.

Laundry work is generally in the interest of an increased trade in material. Washing by the natives is done largely in the rivers, a convenient stone and a club offering the most available means of eradicating the dirt, a barbed-wire fence the easiest means of drying the clothing, and where this is not available the bushes in the vicinity of the wash place are used. The ironing of washed clothing is an art in Porto Rico, as laundresses seem to understand to a high degree the correct amount of starch and labor to put onto a garment. Many strangers visiting the island have marveled at the beautiful condition in which wash clothing is returned from the native laundress, yet the methods may not be all that are desired to extend the life of garments.

The figures shown above indicate the expenditure of about $4 per person for cotton wearing material.

INDIA JUTE TRADE.

REVIEW OF MARKET OPERATIONS AT PORT OF CALCUTTA.

The imports of jute into the United States in the last calendar year aggregated for bags $3,000,000, for burlap $20,500,000, and for jute fiber $6,600,000. The source of these supplies being East India, the following report from Consul-General William H. Michael, of Calcutta, is of interest:

The exports of jute from Chittagong and Calcutta during the first nine months of the present season (beginning July 1, 1909), amounted to 3,701,072 bales. Contrasting this with the shipments during the same period for 1908–9, there was a falling off of 563,581 bales, and an excess over 1907–8, of 99,601 bales. There has been a good deal of complaint by exporters of jute because of the low prices and the decreased demand. Official statistics show that exports last year fell off comparatively little. The deficit thus far may be more than made up during the remaining three months of the export year. It is estimated that the number of bales of jute that will come into the Calcutta market during the three months ending June 30, will amount to 300,000 bales, which will make a total for the season of 8,600,000 bales. The exports from Calcutta during the nine months referred to amount to 3,702,072 bales, which is 562,581 bales less than were shipped during the same period last year. The exports from Chittagong amounted to 322,105 bales, a falling off of nearly 200,000 bales as compared with last year.

The local jute mills took this year 3,846,670 bales and the estimated stock at press houses and in the bazaar is 250,000 bales. It is interesting to note that the United Kingdom took 1,487,640 bales, the Continent 1,730,935 bales, and America 276,986 bales. In addition the United States took 11,750 bales of rejections and 63,379 bales of cuttings. Thus, on the whole, the jute trade of India for this season has been quite satisfactory, although the prices received have not been as high as they were two years ago.

EXPOSITIONS AND CONVENTIONS.

INTERNATIONAL MEETINGS.

CANADA.

IMPORTANCE OF WINNIPEG'S INDUSTRIAL EXHIBITION.

In advising manufacturers of the United States to pay particular attention to the Annual Industrial Exhibition at Winnipeg July 13 to July 23 next, Consul-General John Edward Jones furnishes some interesting details:

This exhibition attracts people from all over western Canada; and with an average daily attendance of over 30,000, it offers exceptional commercial opportunities. This year's exhibition promises to eclipse anything heretofore attempted, and with the enormous influx of settlers (the majority of whom are Americans) manufacturers will find it advantageous to develop western Canada as a market. There are over half a million American settlers in Manitoba, Saskatchewan, and Alberta, who prefer American-made goods to any other. The market is near and the line of goods made for home trade is suitable for this region. Western Canada is highly prosperous and the residents are ready to buy anything of merit, especially in every line of labor-saving machinery and devices. In a new country where labor is high and scarce the people are looking for everything that will save time and labor.

Manufacturers are urged to make a good showing at this exhibition. Every facility will be given exhibitors, and I shall take particular pains to see that our manufacturers are accorded good positions in the various exhibition halls. Agricultural implements of all sorts will be most welcome, and while a number of American agricultural implement concerns are already represented in Winnipeg, there is room for many more. This is particularly true of traction engines; during the last harvest it was impossible to supply the great demand. These prairie farms are especially adapted for the use of traction engines, and it is hoped that American manufacturers will pay particular attention to this matter.

AUTOMOBILE EXHIBIT AND TEST.

An interesting feature of the exhibition will be an automobile utility contest which should attract a large number of American manufacturers. Automobiles have been in great demand in western Canada and last year it was impossible to supply the local market. The long stretches of smooth, level road are well adapted to automobiles and it is common to see farmers using this means of locomotion throughout the west. The opportunity which this exhibition offers to show automobiles is the first in the history of the west. The object of the utility contest is not to show what a motor car is

capable of under any particular conditions nor for racing and touring, but to demonstrate to the general public what the average car under average conditions can accomplish day after day. For $1 any individual owner or dealer in automobiles may enter as many cars as he wishes. Entries, however, are restricted to stock cars—those listed as regular stock in manufacturers' catalogue—and should enter the contest fully equipped as advertised for sale, except tops and wind shields. No changes are permitted from the catalogue description. The classifications of the cars are according to their cubic inches piston displacement: (1) 160 and under; (2) 161 to 230; (3) 231 to 300; (4) 301 to 450; (5) 451 and over.

The trials are divided into tests for (a) safety; (b) economy; (c) reliability; (d) accessibility. Suitable prizes will be given in each class and the contest will end with six races as follows: Five-mile race for cars of class 1; five-mile race for cars of class 2; five-mile race for cars of class 3; ten-mile race for cars of class 4; one-mile electric car race; ten-mile motorcycle race.

Manufacturers of automobile appurtenances should be well represented and a special space in the main exhibition hall will be set aside for these exhibitions. There should also be exhibits of motor boats and necessities. These are coming into commercial use for fishing on the lakes.

A special department will be devoted to electrically driven and operated machines and devices, furnishing a splendid opportunity for the display of everything in this line. Practically all the cities in western Canada have electricity, and all electrical labor-saving devices are eagerly sought. Power is furnished free during the exhibition.

FARM MOTOR COMPETITION.

In connection with the exhibition there will be an agricultural motor competition from July 11 to 23, open to the world. The classes will be: (1) Internal-Combustion Engines 20 brake h. p. and under; (2) Internal-Combustion Engines 21 to 30 brake h. p.; (3) Internal-Combustion Engines over 30 brake h. p.; and (4) Steam Engines.

The entrance fee for this contest will be $25, and any firm or individual may enter more than one motor. The association will supply the fuel—gasoline at 20 cents per gallon; coal oil at 18 cents per gallon; soft coal at $8.50 per ton; and wood at $4.50 per cord. The competing motors must be on the ground not later than July 11, and will be allotted numbers and space. The test will comprise brake test, plowing test, and other tests as the judges deem essential. This consulate-general will answer promptly and fully any questions concerning this matter and urges manufacturers of this class of machinery to make exhibits.

Exhibitors can secure freight rebates, and the Canadian customs will admit exhibits under bond without payment of duty.

On the last day of the exhibition there will be a sale of Holstein cattle. This suggests the opportunity for the sale of American horses, for which there is an enormous demand.

QUEBEC EASTERN TOWNSHIPS' AGRICULTURAL EXHIBITION.

Consul Paul Lang advises that the 26th annual exhibition of the Eastern Townships' Agricultural Association will be held at Sherbrooke, Canada, August 27 to September 3, 1910. This fair always

attracts a great number of people from all parts of the Province of Quebec. Many American goods are annually exhibited and as a result sales are made and the goods introduced into this market. The consul suggests exhibits of boots and shoes, dairy machinery, farming tools and implements, motor cars, and road-building machinery. Space can be obtained by addressing H. E. Channell, secretary, Sherbrooke, Canada.

ENGLAND.

ENGINEERING EXHIBITION TO BE HELD IN LONDON.

The attention of Consul-General John L. Griffiths has been directed to the Naval, Mercantile, Marine, and General Engineering and Machinery Exhibition to be held at Olympia, London, September 1 to 26, 1910.

It is stated that this exhibition will the the largest and most representative engineering exhibition that has ever been held in London. Several prominent firms have secured space, while a large number of others have inquired about reservations. It is the desire of the advisory council that important and representative engineering firms may have eligible positions. In order to do so early applications will have to be made. A prospectus announces that every tool and appliance connected with engineering will be welcomed. It is expected that buyers from all countries will attend. The following list indicates the scope of the exhibits:

Shipbuilding, marine engineering, metallurgical processes and raw materials, castings, forgings, and stampings, machine tools, shop tools, and appliances, gas, steam, and oil engines, lifts and lifting appliances, grinding and crushing machinery, light railway and tramway, permanent way and rolling stock, bridge, roof, and girder work, dockyard plant, contractor's plant, tubes and fittings, steam fittings, fire appliances, submarine engineering, engines and boilers, packings, refrigerating machinery, coal, fuel, etc., foundry and rolling mill plant, transport plant, constructional iron and steel work, iron (angles, bars, tees, etc.), mechanical stokers and conveyors, weighing and measuring machinery, road locomotion, models (various), ropes (wire, hemp, etc.), inventions, electrical apparatus, etc. (power and light, telegraph and telephone), chemical plant, irrigation machinery, engineer's stores, paints, oils, greases, antifouling compositions, etc., military engineering, gas and waterworks plant, ship's fittings, hydraulic and pneumatic plant, warming, lighting, sanitary, and ventilating apparatus, machinery for treatment of raw material, woodworking, etc., scientific instruments, sextants, compasses, aneroids, logs, soundings, etc., auxiliary machinery, ship's stores, dock, harbor, and light-house work, dredging and salvage plant, river and lake craft, etc.

If the exhibition is carried out on the lines of the Engineering Exhibitions of 1906 and 1907 it will afford an excellent opportunity for American manufacturers of naval, mercantile, marine, and general engineering machinery to bring their product to the attention of a large number of possible purchasers from all parts of the world. Full particulars, plans, etc., may be had on application to Frederic W. Bridges, organizing secretary and manager, 119–125 Finsbury Pavement, London, E. C.

CONFECTIONERS', BAKERS', AND ALLIED TRADERS' ANNUAL EXHIBITION.

Consul-General Griffiths has been requested by the secretary of the forthcoming Confectioners', Bakers', and Allied Traders' International Exhibition and Market, to be held in London September 3 to 10, inclusive, to bring it to the attention of American merchants and manufacturers who might be interested in securing space.

This eighteenth annual exhibition will be held at the Royal Agricultural Hall, Islington, London, N. The secretary says it is the intention to make this exhibition more comprehensive than any preceding ones, and he believes it will afford an opportunity to form advantageous business connections. Copies of the prospectus may be obtained from the Bureau of Manufactures.

PROPOSED INTERNATIONAL HORTICULTURAL EXHIBITION.

Consul Henry B. Miller, of Belfast, forwards a press announcement concerning the proposed great International Horticultural Exhibition to be held in England in May and June, 1912. The consul comments:

Great Britain is the largest foreign market in the world for American products of horticulture. In many lines of horticulture it is also one of the most progressive countries. This exposition will no doubt be of great value to the horticultural interests of the United States. Many States will no doubt be specially interested in sending state exhibits, and should make early plans for representation.

LONDON'S EXHIBITIONS DURING THIS YEAR.

Consul-General Griffiths states that while the Japan-British Exhibition is the largest affair of its kind to be held in London this year it is only for Japanese and English displays. He gives a list of others:

Fourth International Printing, Stationery, and Allied Trades Exhibition, held May 25 to June 9.

Naval, Mercantile Marine, and General Engineering Exhibition, to be held September 1 to 26. Organizing manager, Balfour House, Finsbury pavement, E. C.

Pure Food and Allied Trades Exhibition, to be held at intervals in London, Birmingham, and Glasgow. Organizing manager, 75 Chancery lane, E. C.

Eighteenth Annual International Confectioners', Bakers', and Allied Trades' Exhibition and Market. September 3 to 10. Address: Trades' Markets and Exhibitions, Limited, Palmerston House, Old Broad street, London, E. C.

Eighteenth Annual International Grocery, Provision, Oil, and Italian Warehouse and Allied Trades' Exhibition and Market. September 17 to 24. Address as before.

First International Chemical Engineering and Industries Exhibition. September 1 to 26. Address: Organizing manager, Balfour House, Finsbury pavement, E. C.

FRANCE.

SECOND INTERNATIONAL AVIATION CONTEST AT RHEIMS.

Americans secured the best prizes last year at the first International Aviation Meeting at Rheims, France. The committee of aviation there has arranged for a similar meeting at Betheny, near there, July 3 to 10, this year, and invites American aeronauts to again participate. In forwarding this information, Consul W. Bar-

del writes from Rheims on April 28, his report reaching the Bureau of Manufactures on May 25, with the following information:

The preliminary programme may undergo slight changes before it is adopted and published officially, but certain new features of the coming meeting, which may interest American aeronauts and manufacturers of aeroplanes particularly, are already fully decided upon, and will not be changed. One of these is offering prizes to constructors of three aeroplanes which in all contests in which they have a right to participate cover the longest distance. The aggregate of these prizes will be 50,000 francs ($9,650). It is specified that to gain one of these three prizes, an aeroplane, after it has once been accepted and registered by the committee, may be changed during the contests as regards motors, or other pieces if found desirable, and the prizes will be awarded irrespective of whether one or more pilots conduct the same machine during the contests. A silver cup, beside the monetary award, will be given the constructor whose apparatus has covered the longest distance. Other prizes will be:

Thirty-one thousand francs ($5,983) for the greatest distance covered in one flight; 5,000 francs ($965) for the world's record of distance gained during the meeting; 45,000 francs ($8,685) for the greatest distance covered in certain specified flights; 10,000 francs ($1,930) for the shortest time made in flying 100 kilometers (62.10 miles); 18,000 francs ($3,474) for the highest attained altitude; 5,000 francs ($965) for carrying passengers; 15,000 francs ($2,895) for the fastest flight over a distance of 20 kilometers (12.42 miles); 28,800 francs ($5,558.40) in 48 parts, of which 6 are awarded each day for daily records in distance, height, or speed; 5,000 francs ($965) for the two army officers covering 50 kilometers (31.05 miles) in the shortest time; 5,000 francs ($965) for two ladies covering 10 kilometers (6.21 miles) in the shortest time; 10,000 francs ($1,930) offered by the Areo Club of France for a course outside of the aerodrome; 10,000 francs ($1,930) for the two fastest dirigible balloons; 10,000 francs $1,930) for the two fastest kites with passengers (cerfs-volants); 25,000 francs ($4,825) offered by the "Daily Mail;" 10,000 francs ($1,930) the "Coupe Michelieu."

The total of all prizes to be gained at the coming meeting is 287,800 francs ($55,545).

RULES AND REGULATIONS.

All contests are international, and can be participated in by all aeronauts qualified by the authorities of the clubs recognized by the International Aviation Association. Each participant can win only one prize in any one of the specified entries, even if he should have operated during the same several different aeroplanes. All aeroplanes or other flying apparatus are accepted, irrespective of power, form, size, method of starting, propulsion, or inflation, provided that they belong to the class prescribed for each trial.

The entry charge is 1,500 francs ($289.50) if application containing check is made on or before May 15, 1910; 2,000 francs ($386) if made on or before June 1; 2,500 francs ($481.50) if on or before June 15. Applications received after June 1, 1910, can not be guaranteed recognition. The housing and guarding of the apparatus is—like last year—free of charge.

American aviators are granted an extension of five days for the first term of entry, and it is understood that any application sent from the United States on or before May 20, 1910, by registered letter with 1,500 francs, will be accepted. Applications should be made to Comité des Epreuves d'Aviation, rue Bertin 8, Rheims, France.

Every aviator, after having qualified by a flight over the course of 5 kilometers (3.105 miles), will have 1,500 francs $289.50) returned to him.

Another new feature for the contest is the reduction in the length of the course from 10 kilometers (6.21 miles), which it measured last year, to 5 kilometers (3.105 miles) for this year, it having been proved last year that the spectators in the tribunes could not at all times follow the flights with their eyes over the extended course.

GERMANY.

SUCCESS OF EASTER FAIR AT LEIPZIG.

Writing from Coburg, Consul-General Frank Dillingham says that the Annual Spring Fair held in Leipzig in March proved satisfactory to the Thuringian firms exhibiting there. He reviews German business conditions as brought out in the fair, including American participation at the fair:

The general change of affairs for the better during the past few months resulted in manufacturers receiving increased orders at the fair, but a record-breaking year has not come, general economic conditions having changed too much. But the fair brought a certain reassurance and indications that 1910 will be a normal business year, for which manufacturers are thankful, after two years of depression.

The Easter Fair was larger and more imposing than that of 1909, and buyers were present from every civilized country. The exhibits were extensive, as factories, in order to sell a dozen different pieces, must have a collection of several hundred samples. Customers demand that articles be at least slightly altered each year. In many ceramic and glass factories the cost of models and forms has grown so large that it means a big financial burden.

The financial results of the fair also showed that the endeavors to produce a better quality of goods found full recognition from purchasers, because on all sides the demands were greater, and the sales larger, than those for the cheaper articles. The ceramic industry, however, suffers from overproduction. The German tariff agreements with the United States and Canada gives more certainty to the export trade, but those countries are making good progress in becoming independent of foreign supplies.

The porcelain business is not bad; good orders were received at the fair for the better varieties of table ware and fancy porcelain, although the United States hesitated in ordering. Staple wares, however, found fewer sales, and where a purchaser was found it was only by offering especially favorable prices and terms of credit.

The sales of dolls and toys at the fair showed a large increase, and the manufacturers are preparing for a busy season. Generally speaking, the sales were satisfactory, but it was evident that purchases were made with greater care, so as to not overstock for fear of another period of depression. The outlook is generally good because business in almost every industrial branch is improving.

If American exporters will make good exhibits at the Annual Fair at Leipzig marvelously good results will follow. I know of no way in which they can more quickly or more generally introduce their goods.

DRESDEN.

COMPREHENSIVE PLANS FOR WORLD HYGIENE EXHIBITION.

Consul-General T. St. John Gaffney says that the International Hygiene Exhibition to be held in Dresden in 1911, it is claimed, will be the most extensive presentation of hygiene ever attempted. He outlines the plans:

The area for the exclusive display of hygienic objects is about 350,000 square yards. For the first time in history the whole science of hygiene is to be presented in a classified course of instruction, producing a mighty text-book of hygiene by practical demonstration. Each group will have its own exhibition building, in each of which special rooms will be devoted to presenting the theory of hygiene, while the surrounding rooms will be given over to practice. There will be exhibited the hygiene of the Egyptians, the Indians, the Persians, the Jews, the Greeks, the Romans, etc.—the whole history of hygiene from the earliest ages. A popular department will demonstrate clearly to all the care of the health of the individual and man in relation to his organic functions.

An exhibit from the United States is particularly desirable in a grand friendly competition in one of the most important problems known to mankind, the care of the health. All German States will participate. At a recent meeting all group presidents were represented; all the German States, as well as a number of foreign countries, sent delegates, though for lack of time a large number were unable to participate. The countries represented were Chile, China, Denmark, France, Italy, Holland, Austria-Hungary, Portugal, Roumania, Russia, Sweden, and the United States.

The exhibition is well financed, 1,000,000 marks ($238,000) being the guarantee fund, together with other large sums from German governments. The cost of erecting pavilions for exhibits is small—$12 to $15 per 10 square feet.

POSEN.

EAST GERMAN EXPOSITION.

Consul Herman L. Spahr, of Breslau, advises that in the city of Posen (population 145,000) an East German Industrial, Trade, and Agricultural Exposition will be held in 1911, and over 600,000 marks ($142,800) has already been raised as a guarantee fund. The various interests (among them the Breslau Chamber of Commerce) have promised hearty support.

ITALY.

GYMNASTIC CONTESTS AT TURIN EXPOSITION.

The Italian counselor of embassy and chargé d'affaires at Washington transmits a copy of the bulletin of the athletic meet to take place in Turin, Italy, in May, 1911, under the auspices of The Italian National Gymnastic Federation. He suggests that announcements made in the bulletin would be of interest to American athletes. The bulletin will be loaned to those interested by the Bureau of Manufactures.

AMERICAN EXHIBITS FOR THE TURIN EXPOSITION.

In reference to plans for American participation in the World Exposition to be held at Turin, Italy, in 1911, the following list of

articles has been submitted, the exhibition of which it is believed would create a more active demand therefor:

Pumps, hand and power.
Hardware specialties, all kinds.
Kitchen utensils, nickelware, etc.
Household appliances, including filters and vacuum cleaners.
Electric heating and cooking stoves.
Sanitary and plumbing appliances.
Gas apparatus for illuminating, heating, and cooking.
Apparatus for using denatured alcohol.
Fine furniture.
Sporting goods, including roller skates.
Boots and shoes.
Office furniture and appliances.
Iron and steel working machinery.
Agricultural machinery and implements.
Textile machinery.
Coal-handling machinery.
Paper-making machinery.
Woodworking machinery.
Abattoir appliances and machinery.
Elevators, especially automatic electric.
Electric medical, dental, and massage apparatus.
Telegraphic material, instruments, etc.
Automobiles, light and inexpensive.

TURKEY.

HUNGARIAN COMMERCIAL EXPOSITION AT SALONIKI.

On June 2 there was formally opened in Saloniki, in the rooms of the Ottoman Club, the Industrial Exposition of the Royal Hungarian Commercial Museum, consisting of samples of the output of about 125 of the principal manufacturers of Hungary. Consul George Horton describes the exhibits:

The samples are tastefully arranged in groups under the names of the firms represented, and are in charge of Dr. Jules Kovacs, M. P. Conseiller Aulique, or Court Counsellor, who receives visitors and gives explanations. None of the samples are sold, nor are any orders taken, but catalogues are given away containing a list of the names and addresses of the exhibitors, with whom it is hoped that the importers of this district will enter into relations.

Doctor Kovacs told the writer that the cost of this enterprise will be very small, and that all indications lead him to believe that it will be more than justified in results of increased trade. The samples chosen are for the most part of a nature and size that render them easily portable, selected with reference to the needs of this market. According to Doctor Kovacs, the two most important cities of European Turkey commercially are Constantinople and Saloniki, and these are the only two places, which have been chosen for the exposition, which are to be kept open for four days.

One of the catalogues states that the exportation from Hungary into Turkey has grown from small beginnings till it has reached about $3,800,000 per year.

The Royal Commercial Museum, whose headquarters are at Budapest, has appointed representatives in all the principal cities of the Turkish Empire, who will cooperate with it in the extension of Hungarian commerce.

A short time ago the Russian exposition ship visited Saloniki, which excited the greatest interest in Russian products and gave a permanent impetus to Russian business. Now comes this Hungarian exposition. The importers of this town are asking, When shall we see a general collection of American samples? Such an exhibit could be made at comparatively little expense and would pay. The goods must be seen and handled in order to become known and take their deserved place on this market.

RUSSIA.

PROSPERITY EVIDENCED AT THE NIJNI-NOVGOROD FAIR.

Consul-General John H. Snodgrass, writing from Moscow, says that the great Nijni-Novgorod Fair, called the clearing house for trade between European and Asiatic Russia, was a pronounced success in 1909, especially in furs, hides, and leather, the majority of which go directly or indirectly to the United States.

Hardware and textile supplies were also in evidence, but they are controlled principally by German and English concerns, Americans being little known. In fact, few citizens of the United States attend these fairs, though other strong competing nations are well represented. Textiles readily sold by samples. Most of the trade at the Nijni-Novgorod Fair is done on six months' bills, long terms of credit being customary in Russia, as the distances over which goods must be transported to dealers are great. Banks discount bills at three to six months. It is estimated that the turn-over in all lines at the last fair amounted to $250,000,000, a gain of 40 per cent over fairs of recent years. It is thought that 20 per cent of the transactions were arranged by three to nine months' bills of credit, 30 per cent cash business, which represents the hide, fur, and skin trade, and the balance on delivery payments. The increased prices on all lines approximated 5 per cent.

The banner crops of 1909 brought great prosperity to all classes of Russians, and the gratifying results of the Nijni Fair are believed to be due mainly to the ability of the farming element to pay all arrears of taxation and other cumbersome obligations, and to lay aside for future wants. There was a great demand for silk materials by peasant women from the villages, who likewise felt the effects of prosperity and were preparing to dress in accordance with their recently acquired means. It is said that peasants made purchases at the fair which would have been considered unusual in former years, but under present conditions it caused no comment.

Some idea of the extent of the fur trade may be gained from the fact that 1,400,000 Karakul skins (Astrakhan) were shipped from Turkestan and Bokhara and sold for $7,000,000. The effect of the new American tariff upon the sales of skins and hides was anticipated and numerous buyers were on hand, causing a brisk market, with correspondingly increased prices. Leather was dull, due to the accumulation of stocks from previous years when sales were limited on account of the poverty of the peasantry who were unable to provide new boots and harness for their horses.

A resumption of trade between Russia and Persia was a feature of the fair. Persia hitherto sent millions of rubles (ruble=51.5 cents) worth of dried fruits, dainties, and Persian lamb skins to the fair, and in return purchased manufactured articles. With the outbreak of hostilities in Persia, and the continued unsettled conditions, Russian merchants were not disposed to take any chances, and, consequently, a cash basis was substituted for the credit system. That meant no trade. Under the present régime, Russian traders feel justified in returning to old methods with substantial results.

Since 1864 the fair has been financed and managed entirely by the Nijni-Novgorod Fair Committee, consisting of merchants of the

principal commercial cities in Russia. It opens July 28, and closes September 7, when all payments against bills of exchange due at the fair must be made. Business is continued after this date, but must cease on September 23.

The city of Nijni-Novgorod, situated at the confluence of the Volga and Oka rivers, with a population of 95,124, can be reached from Moscow in 9 hours and 35 minutes, the distance being 275 miles.

FISHERY EXHIBITION.

OPPORTUNITY FOR SPORTING GOODS AT WARSAW.

Dealers in sporting goods will be interested in the announcement of a fishery exhibition which Consul-General John H. Snodgrass, of Moscow, says is to be held at Warsaw from September 15, continuing one month. The exhibition will be divided into the following sections: (1) Pisciculture in ponds; (2) pisciculture in rivers and lakes; (3) management of latter; (4) diseases of fish and their prevention; (5) the trade in fish and its organization; (6) fishing gear and tackle; (7) fishing as a sport; (8) fish pond construction; (9) ichthyology and statistics; (10) subjects pertaining to pisciculture. It is estimated that over $250,000 worth of fishing equipment was sold in Russia during the past year.

ELECTRICAL EXHIBITION.

PROGRAMMES FOR THE FORTHCOMING ST. PETERSBURG DISPLAY.

Several sets of the programme of the International Exhibition of Electricity as applied to railroads, to be held at St. Petersburg August 28 to November 28, 1910, have been forwarded by Consul-General John H. Snodgrass, of Moscow. These are in English and may be obtained by prospective American exhibitors from the Bureau of Manufactures. Communications relating to exhibits should be addressed to the Imperial Russian Technical Society, Panteleimonskaja street 2, St. Petersburg.

GAS AND GASOLINE MOTORS.

EXPOSITION TO BE HELD IN ST. PETERSBURG.

Consul Jacob E. Conner gives an account of an exposition of gas and gasoline motors held in St. Petersburg throughout the month of May:

The attendance was small, owing in part to the unfavorable time of year and to the competition of other Russian events. The interest, however, was considerable among those who should be interested, and quite a number of sales are reported.

By far the best exhibits are made by the British and the Germans. The quiet, smoothly running engines of the former were beautiful, while the latter were represented by some novelties that promise to attract wide attention. Among these was an engine for which most unusual claims are advanced in the matter of fuel economy. It is claimed that it will furnish 200 horsepower on 1 pood (36.11 pounds) of naphtha per hour, or about 5 gallons. Even if this claim is too optimistic, it is not to be dismissed without investigation, and this should be done by a competent mechanical engineer. In each cylinder there are 2 pistons, and the explosion takes place between the 2 piston heads, driving them in opposite directions at the same

time. The engine, when seen in operation, was burning crude petroleum, and had been using at different times kerosene and naphtha. It is about twice the length of the ordinary gas engine and will weigh probably 50 per cent heavier. It is known as the Younker engine, and comes from Aachen, Germany. The one on exhibition was a working model, as the engine is not yet manufactured for sale.

There was also on exhibition an engine using sawdust for fuel, first converted into gas, and the gas used in the engine as motive power. There was a considerable exhibit of Russian engines, which for the most part are of English or German pattern, though made in this country. [A list of the 37 exhibitors at the foregoing exposition may be obtained from the Bureau of Manufactures.]

It is a matter of regret to those here who know and appreciate American manufactures in these lines that they were so inadequately represented. The few shown were by local agents who are mostly inexpert in the effective use of methods of display. It is hinted that there are enough cheap American makes and very few good ones, resulting in an unenviable reputation, while the English and German machines are taking the lead and establishing reputations for durability and excellence. An all-American exhibit could do an immense amount of good advertising, and is needed in justice to both reputation and future sales. Extensive developments are projected in Russia, and it seems probable that there will be a constantly increasing demand for machines of this character, especially in view of the cheapness of petroleum and the increasing volume of English and German capital coming to this country. Moreover, a great many young Russians in the technical schools are turning their attention in this direction.

American manufacturers of these and many other goods ought to seize the first opportunity to make a display of their wares here. It is much to be hoped that an all-American exhibition may be held here next year.

PHOTOGRAPHIC FAIR.

AMERICANS INVITED TO PARTICIPATE AT MOSCOW.

The Russian Photographic Society of Moscow is arranging for an International Photographic Exhibition during March and April, 1911, and wishing to attract as many exhibits as possible, they have issued an invitation through Consul-General John H. Snodgrass to individual photographers, professional and amateur, in America, to dealers in and manufacturers of photographic supplies, and to photographic societies, requesting that they participate.

The purpose of the exhibition is the improvement of photography in Russia. The Third Russian Congress of Photography will take place during the course of the exhibition and this will doubtless increase its importance. The exhibition consists of the following sections:

(1) Scientific section: Microphotographic, astrophotographic, natural history, medical, and judicial photographs, appliances, and also exhibits relating to the history of photography and to scientific photography. (2) Section for photographic literature: Printed works on artistic and scientific photography. (3) Section for work of professionals, amateurs, and photographic societies. Photographic pictures of all sizes and classes of work. (4) Photography in colors. (5) Section for photomechanical processes: Heliogravures, phototype, authotype,

and other processes. Application of photography in typo-lithography. (6) Cinematograph section. (7) Section for practical application of photography: Photographic cameras, accessories, materials, etc.

The exhibits must bear the name and address of the author, as well as the name of the subject and the process adapted. In sales of articles 10 per cent will be retained as commission by the society, and if there are no duplicates the sold articles may be taken only after the close of the exhibition. The awards consist of gold, silver, and bronze medals and diploma. The gold and silver prizes are delivered only upon receipt of their value. The bronze medals are delivered gratis.

Applications for admission must be handed in not later than December 1, 1910, at the following address: Russian Photographic Society, Exhibition Committee, Moscow, to whom application may be made for more definite information and for the programme and rules that govern the exhibition.

It seems that this exhibition will be a splendid opportunity for American dealers in and manufacturers of all descriptions of photographic supplies to exploit their products in Russia. One well-known American house has already become introduced throughout this Empire by an aggressive commercial policy, and they are now the recognized leaders in all matters relating to photography. There are opportunities for others manufacturing similar articles of equal merit. for the territory is extensive, and this business is yet in its infancy in Russia.

WEST AFRICA.

OPPORTUNITY FOR AMERICAN IMPLEMENTS AT EXPOSITIONS.

The following announcement in Sierra Leone is quoted with comments by Consul W. J. Yerby:

The Accra Agricultural Show will be held at Accra on November 25 and 26, 1910. For full particulars apply to the Honorary Secretary, Accra Agricultural Show, Accra, Gold Coast Colony, British West Africa.

Immediately following this show at Accra will take place the agricultural show (already reported) at Lagos, the capital of Southern Nigeria, West Africa, being the first week in December, 1910.

There could be no better opportunity to exhibit and to explain how to use American manufactured hand agricultural implements and other simple tools than at these two shows. Because of the primitive native agricultural methods hand implements and tools only are in demand, yet others might be introduced. Horses, mules, and bullocks are little used, unless it be in the far interior. The natives adopt new methods slowly, but the reason is that they have no way of learning new methods and the use of scientific tools except in mission schools and government experimental stations; yet they are eager for improved methods. When they learn their use they readily take to simple hand implements and tools. Those of some education, of whom there are many on the coast, are quite familiar with the use of carpenters', masons', blacksmiths', and goldsmiths' tools, and are keen on getting hold of those up to date. Though many American tools and agricultural implements find their way into West Africa the greater part of those imported are of German and English make. there being no Americans on the coast in business to introduce American manufactures. Simple implements and tools are those in demand. There ought to be a sale of hand rice hullers or cleaning machines, as well as hand fiber machines.

CHINA.

AMERICAN FIRMS AT NANYANG EXPOSITION.

Consul-General Amos P. Wilder, of Shanghai, and Vice-Consul Albert W. Pontius, of Nanking, both forward preliminary accounts of the Nanyang Exposition to open June 5, 1910, at Nanking, China. Mr. Pontius says that the following American firms represented in China have been provided with space in the building set apart for American exhibits: The American Trading Company, The Colts Arms Company, Cornell Bros. & Co., Davis & Lawrence, Denniston & Sullivan, The Robert Dollar Company, Fearon, Daniel & Co., Fobes & Co., Frazar & Co., Getz Bros. & Co., Mustard & Co., Singer Sewing Machine Company, Standard Oil Company, Vacuum Oil Company, Buda Foundry and Machine Company, Rider-Ericson Pump Company, McConway & Torley, Chattanooga Plow Company, Jackson Mining Drill Company, General Electric Company, Sullivan Mining Machinery Company, Atlas Fire Engine Works, H. W. Johns Manville Company, Kueffel & Esser, Patton Paint Company, Bolte & Weyer, Kellogg Telephones, American Consulate Information Bureau. Mr. Pontius adds:

Two imperial commissioners from Peking have been instructed to be present at the opening day. The electric-lighting facilities will be ample for the exhibition, the total capacity being more than 25,000 lights, for which a British machinery plant will furnish 10,000, American machinery 8,000, and German machinery 6,000. One small plant of 1,500 lights sent up from Canton will also be installed.

As a result of the publication in the Weekly Consular and Trade Report of the facts regarding the " information bureau " to be established by this consulate, catalogues, circulars, and pamphlets are arriving in every mail. Slips in Chinese are attached to the latter without unnecessary delay, thus preventing an accumulation of work involved in the new venture.

AUSTRALIA.

FINE DISPLAYS OF FARM STOCK AND CROPS.

Vice-Consul-General Henry D. Baker attended the Australian annual agricultural exhibition at Sydney in March. His excellent review of the displays of machinery and farm equipment will be published in a separate monograph by the Bureau of Manufactures. Concerning farm products shown he says:

As representative of Australian pastoral and agricultural industries, the exhibition contained many features which would have attracted admiration in any country. The displays of horses, cattle, sheep, pigs, and fowls indicated by their excellence the careful attention paid to breeding and production of the best types of useful domestic animals. On the opening day there was a grand parade of live-stock, all gayly bedecked with ribbons, including high-blooded trotters, ponies with delicately molded legs, strong, well-developed draft horses and stallions, remarkable broad-backed cattle, smart-looking carriage horses with arched necks, and ponderous, slow-moving bulls. The immense size of some of these animals was a remarkable feature of the exhibit.

The fruit display at the show was specially interesting as indicating what may be done in Australia in producing apples and pears,

not only to find a good local market. but to stand keeping for export purposes, and also as showing how they should be properly packed for export. All the most desirable varieties were stacked so as to show their behavior at different farms; other varieties were shown as examples of sorts which readily take diseases like "bitter rot" and "watery cores." The various methods of packing for the English and Canadian markets were graphically illustrated. Some Canadian cases, identical with those actually used for shipping apples and pears to Vancouver, were shown packed ready for export, some in what is known as the 2–2 straight pack, others in the 3–2–3 pack, and still others in the diagonal or wedge form.

WINNING WHEATS TO BE EXHIBITED IN ENGLAND.

The same principle of grouping so as to indicate the most successful varieties was applied also to wheats, maize, oats, and fodders. There were 62 entries in a prize competition for the best wheat varieties. The wheat developed as the result of the experimental work of the late William Farrer carried off the chief honors. There were seven competitors for the gold medal offered by the Department of Agriculture for the best milling wheat. The champion sample (Come back) was first in milling and general appearance, carrying 42.25 points for milling and 48 for general appearance, a total of 90.25 points out of 100. The judges described the wheat as a splendid sample, very clean, of a beautiful bright color, and of a uniformly good grain. The second prize taker scored 85¼ points. The classes for ordinary soft and medium hard wheats (flour strength not less than 52) were merged into one. The champion wheat also gained first place, while a fine sample of Yandilla King was second, with 39.55 points for milling and 43.75 for weight and general appearance; total 83.30 points. The third prize sample, Federation, was very good in general appearance and weight (67¼ pounds to the bushel), but low in milling quality.

Arrangements have since been made to exhibit the winning samples of wheat at this show at the Corn Exchange, in Liverpool, England, and the Baltic Exchange, at London.

Pertinent to the interesting development of the wheat industry as shown at this exhibition, the president of the Royal Agricultural Society, in his speech opening the show, mentioned that—

> The wheat harvest this year would be as much as 26,600,000 bushels, and at 4 shillings (about 98 cents) this would mean a return to the farmers of £5,320,000 ($25,855,200). In this connection, they ought not to forget the great work of William Farrer, whose discovery of a drought and disease resisting wheat had made possible the splendid yields they were now having. While Farrer's memory was yet green, he would like to see a memorial erected to the discoverer of "Federation wheat."

MISCELLANEOUS.

PROGRESS IN AVIATION.

GERMANY.

THE FIRST LIGHT-HOUSE FOR AERIAL NAVIGATION.

Consul Thomas H. Norton reports from Chemnitz that for several months there has been keen discussion in Germany regarding the best methods for enabling aerial travelers to establish with certainty their location after nightfall and in foggy weather. The consul also describes the initial steps in this direction:

Numerous plans have been proposed for a systematic network of signal stations to cover the entire Empire. While no one system has yet received official or professional sanction, an initial step in this important matter has already been taken at the town of Spandau in Prussia, where an aerial light-house is now in full activity. The necessity of such a construction has been felt more particularly at this point, where the experiments of the German war office with aerial craft are largely conducted and nocturnal flights are increasingly frequent.

This pioneer beacon for aerial guidance is comparatively simple in its construction. It consists of an elevated support on which rests, in a horizontal position, a wooden ring of considerable diameter; 38 powerful incandescent electric lights are placed at equal distances about the circumference, and there is an automatic arrangement for interrupting the current, at regular intervals, for a short period.

The location of Spandau is thus clearly indicated to a traveler passing over the place, by a large, luminous circle, alternately disappearing and reappearing. While this device answers admirably for the needs of aeronauts during the night, it is of little or no use when fog prevails at any time. For such contingencies it will be necessary to install a siren or similar apparatus.

EUROPEAN AIR-SHIP FLEETS.

AERIAL VESSELS AVAILABLE TO VARIOUS GOVERNMENTS.

From statistics just published in the German press, giving for European countries the number of dirigible balloons and aeroplanes already finished at the end of 1909, or which will be ready for use very shortly, Consul Carl Bailey Hurst, of Plauen, quotes the following:

Germany possesses 14 dirigibles of six different models—namely, Gross, Zeppelin, Parseval, Schütte, Siemens-Schuckert, and the Rhine-Westphalian air ship—and five aeroplanes. France has seven dirigibles and 29 aeroplanes; Italy, three dirigibles and seven aero-

planes; Russia, three dirigibles and six aeroplanes; Austria, two dirigibles and four aeroplanes; England, two dirigibles and two aeroplanes; and Spain, one dirigible and three aeroplanes. Altogether, European nations have 32 dirigibles and 56 aeroplanes that are presumed to be available for service.

SCOTLAND.

THE FIRST INTERNATIONAL AVIATION MEETING.

Consul J. N. McCunn, of Glasgow, renders the following report on the first international aviation meeting to be held in Scotland:

This affair is being promoted by the Scottish Aeronautical Society, in connection with the Royal Aero Club of the United Kingdom and the Aerial League of the British Empire, and will be held at Lanark, 31 miles from Glasgow, August 6 to 13. The Scottish Aeronautical Society is raising the necessary funds, and at least $40,000 in prizes are to be offered. The various competitions will be open to all aviators of the world and it is believed that as a result Scottish scientists will take a more prominent part in the development of aerial navigation.

From the outlook the society believes that the drawings in gate money and stand charges during the seven days of the meeting, will not only cover all expenses, but leave a surplus for the advancement of the science and practice of aviation in Scotland. The Scottish meeting will be the second to be held in Great Britain this year. The first will be at Bournemouth, England, during the month of June.

RECENT INVENTIONS.

SWEDEN.

AN INVENTOR DEVISES A COMBINATION INSTRUMENT.

Writing from Stockholm, Consul-General Edward D. Winslow describes a new invention in Sweden which reproduces both action and sound:

In the photographone the larger metallic trumpets which caused the hollow metallic sound are entirely dispensed with. No receiver is needed for the speaker; only a very small celluloid tube, like the one used at the telephone, is placed in the front for the convenience of the speaker, but this tube is easily dispensed with. On the left side behind the wall is placed an electric lamp. From this the light passes through two cuvettes (through which water is running) which absorb the heat, and then through the wall and a system of lenses seen in front of the tube. Having passed through these the ray of light strikes and is reflected in a mirror fastened on the membrane behind the tube, is thrown onto a rotating sensitive plate, and finally draws the sound curve on this negative. This original negative is developed, and the sound curve transferred to plates of ebony. From these the sound is again reproduced as in the gramophone. In this way the human voice and all other sounds are perfectly reproduced without any disturbing secondary sounds.

So perfect is the reproduction of sounds with the photographone that the inventor can distinguish between and actually read on the

curve the different letters of the alphabet, and the photographic plate is so sensitive that the smallest variations in the voice can be studied. The same words uttered in the same language, but by another individual, appear different in the photographone script.

The great importance of this method for obtaining linguistical and musical records is evident. This invention is of high value, not only for the student of linguistics and phonology, but for the general ethnologist who needs to obtain kinematographic reproductions of dances or other ceremonies. It has always been difficult to combine the gramophone with the kinematograph, because it has not been possible to obtain the actions and movements at the same time the speech or song is given. With the photographone it is possible at one time to photograph the action as well as the music and song and to reproduce both at one time.

The photographone records can be reproduced ad infinitum, and if the original music or song should not be strong enough to fill a large concert hall at the reproduction the sound can be increased as desired. On account of the immense volume of sound that can be reproduced with the photographone it will, according to the inventor's idea, be of great value for replacing the fog sirens in light-houses. Instead of the inarticulate howl which the fog sirens send out in the night, and which easily can be confounded with the fog horns of other vessels, this new photographonic fog horn will call out the name of the light-house for miles over the ocean. For work in the field the inventor replaces the electric with solar light.

A practical use for the photographone on a most extensive scale will be reproducing lectures and addresses.

GERMANY.

A NEW SUBSTANCE REPLACING CELLULOID, IVORY, ETC.

Consul Thomas H. Norton, of Chemnitz, says that various art industries in Germany have found a number of useful applications for a newly invented substance, termed "resinite," of which he gives an account:

This material is produced in a variety of modifications by the union of formaldehyde and carbolic acid (phenole) in connection with certain metallic salts. The name is given on account of its resemblance in an important form to ordinary resin. This special variety is used chiefly with porous materials, such as wood, paper, pasteboard, etc., and renders them hard and impermeable. Thus ordinary pine wood when thoroughly impregnated, becomes so hard that it rapidly dulls a planer.

In another form it can be poured as a liquid into molds. After coagulation it is transparent, with ruby tint, infusible, and unaffected by ordinary chemical reagents. It is well adapted for making ornaments, such as hat-pin heads, imitation jewelry, and for most purposes where enamel or enamel varnish are employed. For doorplates, street numbers, signs, etc., it seems capable of rendering excellent service, being entirely unaffected by atmospheric action.

A third modification is liquid, but upon the addition of a mineral acid, it solidifies in a few minutes to an elastic, homogeneous sub-

stance, which can be easily cut, turned, polished, etc. In this form resinite can replace for a multitude of purposes, horn, celluloid, vegetable ivory, and similar substances. Buttons, knife handles, and mosaic designs, are some of the many objects made with this modification. When competing with celluloid, it possesses the great advantage of being noncombustible. This property resinite shares in common with another industrial rival of celluloid, viz, cellit (described in Consular and Trade Reports in 1908).

There is a large field for this new material in the glove manufacturing sections of Germany, where at present clasps are made chiefly from vegetable ivory.

A WATER BICYCLE.

AN AUSTRIAN INVENTS THE "HYDROCYCLE"—SIMPLE CONSTRUCTION.

In German sporting circles Consul Thomas H. Norton, of Chemnitz, says interest is excited over the possibilities of a newly devised form of locomotion for use on water, termed the "hydrocycle."

It is of exceedingly simple construction. A couple of parallel, pointed, water-tight tubes of galvanized iron, 10½ feet in length, are attached to each other 2½ feet apart. A light framework supports a seat. Beneath this is a pair of pedals, the motion of which is communicated to propeller blades. A handle bar in front of the seat is connected with a rudder. The traveler using this novel craft, by a pedal action identical with that of the ordinary bicycle, moves easily over the surface of the water, and alters his direction promptly at will. He has an advantage over the rower in facing forward, as does a canoe paddler.

The total weight of a one-seated hydrocycle is 66 pounds. The inventor, an Austrian (Herr Fr. Kaspar), attains a speed of six to seven miles per hour. The new craft offers an agreeable variation from ordinary rowing, for use on inland waters and along the seashore. More elaborate construction, provision for more than one passenger, and other improvements on the fundamental idea, may enable it to become a popular feature in marine sports, while there are certain practical elements in the combination of simplicity and cheapness in construction which are worthy of careful study.

TANTALUM DENTAL INSTRUMENTS.

ADVANTAGES, INCLUDING LOWER PRICES, CLAIMED THEREFOR.

Deputy Consul-General Archibald B. Dorman furnishes the following information concerning the manufacture of tantalum dental instruments, recently established in Berlin:

Many advantages, besides lower prices, are claimed for tantalum dental instruments over the steel instruments, which they are intended to supersede, viz, hardness; freedom from effects of bases and acids, except fluoric acid; and capacity to withstand a temperature of more than 400 degrees centigrade. American dentists say that the tantalum instruments do not rust when left exposed to the air, but retain their polished surfaces, besides proving more lasting than the steel instruments. They can be cleaned by being washed in soda and disinfected by being boiled in water containing soda. In working

with phosphate and silica cements and amalgams, tantalum instruments have special advantages; they are not affected by iodine, etc. They may be used, in working root canals, with trikreosol acids, where steel can not be used.

NEW GERMAN ALLOY.

VALUABLE METALLIC INVENTION ON PAR WITH ELECTRON.

Consul-General Richard Guenther makes the following summarized translation from the Frankfurter Zeitung concerning new metal alloys in Germany:

Visitors to the Aeronautic Exhibition at Frankfort last year will remember the electron metal, manufactured by the Chemical Factory Griesheim, which received a prize and attracted great interest on account of its low specific weight. The great technical importance of such alloys that combine a low specific weight with a high resisting power induced many experts to make further experiments in this interesting field. Walter Ruebel, a civil engineer, the inventor of "Ruebel" bronze, has made an alloy which will become a strong competitor of electron. Its main ingredient is also the light metal magnesium, which, in its pure state, is entirely unfit for metallurgical purposes, as it is rather soft and little resistant to atmospheric and chemical influences. However, magnesium loses these bad properties almost entirely even if only small quantities of other metals are added to it. Zinc, copper, and aluminum are added in this new invention in varying quantities. It is advisable not to add more than 10 per cent and not less than 4 per cent to the magnesium. A fine-grained, homogeneous alloy of considerable strength and low specific gravity results. This new alloy is of importance in constructing air ships. A Zeppelin air ship, with its mechanical parts made of electron metal or of this new alloy, weighs 3½ to 4 tons less than were it constructed from the materials formerly used.

AUSTRIA.

SUCCESSFUL PROCESS FOR EXTRACTING NETTLE FIBER.

Vice-Consul E. T. Heyn, of Reichenberg, furnishes the following additional information to that recently published in Consular and Trade Reports concerning the production of fiber from nettles:

The spinning department of the Kaiser Franz Josef School of Textile Industry, in Reichenberg, is now experimenting with the cleaned fiber of the nettle. By the new Austrian process the gum is extracted from the fiber of the plant by mechanical and partly by chemical means. The stalks are relieved of their wood, resin, and rubber substances by pressure. The experiment station at Brunn has succeeded in completely separating and spinning the fibers furnished without destroying their tension or firmness. These experiments were made on knitting-yarn machines, and yarns were produced which it is claimed, owing to their excellent qualities, can be used in various branches of weaving and knitting, in the production of furniture covers, blankets, tapestries, damasks, cloths, ribbons, laces, and underwear.

The inventors of the new process believe that, sooner or later, nettle fiber will largely replace cotton and that, by the same process, spinable fiber can be obtained from the stalks of hops and other plants. [Accompanying Vice-Consul Heyn's report was a sample of nettle fiber which may be seen in the Bureau of Manufactures.]

FRANCE.

INVENTION TO DETERMINE DIRECTION OF WIRELESS ELECTRICAL CURRENTS.

Consul James E. Dunning, of Havre, furnished a detailed description of an invention, the work of Italian scientists, which is called "a standard compass actuated by Hertzian waves." The consul's complete description of the apparatus is on file in the Bureau of Manufactures, but the following is an abstract of the claims put forth by the inventors, as given to Consul Dunning:

1. The captain of a ship having this apparatus can determine with rapidity and simplicity the direction of the station giving forth electric waves.

Compass actuated by Hertzian waves.

2. In foggy weather a ship having the Hertzian compass can at a considerable distance discover the position of a ship sending forth electric waves, thus minimizing the danger of collision.

3. Up to the present there was no instrument which in a fog would enable a captain in going into dock to fix the position of his ship or find out if the way were free; he had to trust to sounding and reduced speed; but with a Hertzian compass he can dock in complete safety if he follow the indicated directions of the compass.

4. In spite of all precautions, should an accident happen, the boat in distress could send the signal letters CQD, and the rescuers, if their ships were fitted with the Hertzian compass, could at once locate the vessel in distress, provided she kept up her signals, which the compass would make use of to show the actual position of the boat in distress. The difficulties arising from the drifting of the vessel in distress from the position originally signaled would thus be obviated and time would not be lost, as was the case with the Republic, for which the rescuers had to search four hours after their arrival on the scene of the disaster.

5. The Hertzian compass represents a means of great importance in preventing maritime accidents and in carrying help to ships in distress.

SWITZERLAND.

INVENTION OF NEW CEMENT-BLOCK MACHINE.

Vice-Consul Eugene Nabel, of St. Gall, describes a new Swiss machine with revolving molds for shaping building blocks:

Brick clay, various mixtures of cement, sand, gravel, slag, sawdust, cork, etc., may be readily pressed into compact blocks with exact measurements, sharp lines, and edges. All kinds of mixtures have been experimented with, the machine molding them into blocks which have successfully withstood the severest tests. Several different sizes of bricks or blocks may be turned out at the same time, and in series of 10 of uniform size, every half revolution of the press producing 5 blocks. It may be operated either by hand or motor power, without special skill and by one person. It is unlike any machine on the market, cheap in price, operates without the sudden jars usually incident to such machines, and is durable. It occupies small space, is easily adjusted, and portable. In making bricks this machine dispenses with frames for drying, the process of molding hardening them. [Photographs of the invention, together with the name of the Ohio firm which will construct the machines, may be obtained from the Bureau of Manufactures.]

ITALY.

SULPHUR REFINING METHODS EXPECTED TO EFFECT GREAT ECONOMIES.

Responding to a Chicago inquiry, Consul William Henry Bishop, sought information as to the calcium chloride method of treating Sicilian sulphur ore. He writes from Palermo:

From the fact that a leading owner of sulphur mines and his office engineer, to whom I addressed my first inquiries, had scarcely if ever heard of it, it can be inferred that it has not made a successful and growing place for itself in Sicily. The most usual process of extraction here is the primitive one of using part of the ore as fuel for the rest, which is highly wasteful, for in addition to this loss the adjoining proprietors of farm lands must be paid for the destruction of their crops by the fumes, so that the whole expense is estimated at as much as 50 per cent of the product.

The above-mentioned owner of mines is about to put into operation at his plant at Grotte the "Forno Sanfilippo," a new furnace (using coal), which will save all but 1 per cent of the sulphur. He has also in progress an experiment which it is hoped will permit the use of "solfuro di carbonio" on a large scale. This is the chemical with

which laboratory assays are made, but it is lost in the process. The experiment is to see if it can not be recovered and used time after time, thus obviating the present vital objection of its high cost. By this method practically everything in the ore is saved, as not even 1 per cent is lost.

NORWAY.

A LID-FASTENING DEVICE EFFECTS TIME SAVING.

Consul P. Emerson Taylor writes from Stavanger as follows on a new Norwegian invention for fastening the lid on fish cans:

The machine, in a single operation, attaches the rubber band inside the lid, presses it on, pressing on or "bukning" the lid, turning down the so-called "lip" of the lid, which holds the key used for opening, and pressing down the rim of the lid and sealing it on the can. The machine can operate this combined process at the rate of 20 cans a minute, while the old process required that much time for attaching the rubber bands alone to 20 cans.

A can lid has been secured from one of the canning factories and is forwarded. [Will be loaned to interested firms by the Bureau of Manufactures.] This shows the kind of lids in use, and also the first operation under the old process, that of attaching the rubber band, and, in connection with the above description, suggests the manner in which the new machine is used.

ENGLAND.

MEDICAL PROFESSION INTERESTED IN A NEW INSTRUMENT.

Consul-General John L. Griffiths finds that a great deal of interest has been manifested in the British medical world as a result of the invention of a clinical thermometer which, it is stated, automatically registers every fraction of a degree in the changing temperature of the patient. Mr. Griffiths forwards from London the following description of the instrument:

The claim is made that hitherto it has been impossible to record with accuracy the fluctuations in the temperature of the human body, either in sickness or in health. If this is the fact it is evident that the invention which has just been perfected will open a very large field for research work in an entirely new direction. The thermometer consists of a very fine flattened coil of platinum wire, 1–250th of an inch in diameter, wound on a thin strip of celluloid film. This coil is then covered, for the purposes of insulation, by a second thin film of celluloid. The ends of the platinum wire are connected with ordinary copper flexible electric light leads. An extremely sensitive galvanometer, which will instantly record any increase or decrease in the amount of electric current passing, is let into the circuit. The leads then pass to an electric recorder, on which the extent of the variations in the current passing are noted by an upward or downward swing of an ink-tipped pointer traveling on a continuously revolving paper-covered drum or cylinder. The principle underlying the thermometer is that any change in temperature of the coil of platinum wires will vary the amount of current which can pass through it, this change being determined by the galvanometer and recorded on the revolving drum. The thermometer, which is in an insulated celluloid case, is to be placed in the arm pit and kept in position by a bandage which will pass over the opposite shoulder. The arm will also be bandaged to the side in order to protect the thermometer from all atmospheric influences. It is expected that this new instrument will be used chiefly in hospitals in the treatment of such diseases as typhoid fever and pneumonia.

CANNING TRADE.

BELGIUM.

THE IMPORTANT PACKING HOUSE AT MALINES.

Consul-General Henry W. Diederich, of Antwerp, describes the operations of the Belgian canning factory at Malines, which he says does a larger business than any in France or Germany:

The establishment produces the highest grade of canned goods, especially peas, beans, and asparagus. Of peas alone 5,000,000 tins are turned out in a busy season. The packages are made up with an attractiveness which Americans should learn. There is a finish in every detail, even to the marking of the outer wooden cases, which are smooth and neat. The total exports from all Belgium are over 2,000,000 cases of canned goods. Belgium seems to have secured the best canning trade of Europe, and the Malines factory also receives orders from many American cities. It employs during the busy season of six weeks, beginning in May, about 400, of whom 300 are women; the latter receive 40 cents and the men 60 cents, but all seem thrifty and contented.

Notwithstanding this large industry and 10 smaller canneries in Belgium there is an opening here for American canned fruit and condiments, especially if carefully packed.

SIAM.

ANNUAL IMPORTS OF CANNED GOODS.

Consul-General G. Cornell Tarler, of Bangkok, in giving official figures covering imports of canned goods into Siam, calls attention to the neglect of this extensive field by American exporters:

The customs statistics for 1908–9 enumerate among imports the following canned goods, in value: Sardines, from all countries, $31,934, of which $30,747 worth is credited to Singapore and $994 to the United States. In the enumeration of canned milk and cream the total from all countries equaled $103,891, of which $56,628 worth came from Singapore, $21,600 from Switzerland, and $25 from the United States. No other canned goods are enumerated in the statistics, but it may be that some enter under the general head of provisions, which are listed as amounting to $2,312,453. It is to be remembered that all varieties of canned fruit and vegetables are largely in demand locally, and particularly among Europeans, because of the fear of cholera, which has sometimes been traced to native products, and it would appear that this field for canned fruit, preserves, vegetables, potted meats, fish, soups, and pure-food products generally, has been much neglected by American exporters.

MALAYSIA.

OIL AND FOOD CONTAINERS AS HOUSEHOLD ARTICLES.

The usefulness of tin cans in Malaysia after they have been emptied of American prepared products is described by Consul-General James T. Du Bois, of Singapore:

The Malay Peninsula produces about 65 per cent of the total output of tin in the world, which amounts to nearly 58,000 tons, valued

at $41,000,000; of this the United States consumes about one-fourth. The amount of this tin that comes back to the Malay Peninsula in the form of tin cans is interesting. Of the approximately $2,000,000 worth of goods shipped from the United States to this region, about $800,000 of it comes in tin cans of all varieties. It requires 1,300,000 1-gallon tin cans to bring the petroleum, and the purposes for which these cans are used after the oil has been consumed is varied and peculiar. Thousands of the cans are used as water buckets. The interior of a Malay, Tamil, or Chinese home contains American tin cans of all sizes and shapes, put to some useful purpose. Sieves are made by puncturing holes. Thousands of dust pans are made from the cans by removing one side, curving two sides, and attaching a large wooden handle. Baking and cooking utensils of all kinds are also skillfully manufactured, and may be seen in thousands of homes. For storing articles of food against ant onslaughts the tin can is a blessing. Hundreds of men are engaged in manufacturing from tin cans funnels, pepper and salt casters, cocoanut and nutmeg graters, lamps, biscuit tins, tea and coffee pots, ladles, mugs, cake patties, Chinese pipes, oil pumps, money boxes, and the framework for false teeth. So necessary has the American tin can become to these people that to be deprived of its manifold uses would cause a real hardship.

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